

FREE PUBLIC MUSEUMS, LIVERPOOL.

DAYS AND HOURS OF ADMISSION.

January	-	-	-	from 10 a.m. to 4	p.m.
February	-	-	-	„ „	4.30 „
March	-	-	-	„ „	5 „
April to September	-	„	„	6	„
October	-	-	-	„ „	5 „
November and December	„	„	„	4	„

The Museums are closed on Sundays and Public Fast Days. Tuesdays are reserved for Students and Special Visitors on application.

By Order,

JOSEPH A. CLUBB,
Curator of Museums.

HANDBOOK AND GUIDE

TO THE

BRITISH BIRDS

ON EXHIBITION IN

THE LORD DERBY NATURAL HISTORY
MUSEUM, LIVERPOOL.

ILLUSTRATED BY TWELVE PLATES AND PLAN OF ARRANGEMENT.



LIVERPOOL :

C. TINLING & CO., LTD., 53, VICTORIA STREET.

1914.



THE GOLDEN EAGLE GROUP.
CASE 189.

HANDBOOK AND GUIDE

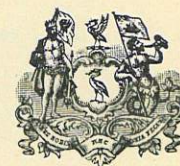
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PREFACE.

The Liverpool Museum was the first institution of its kind in Great Britain, if not in the world, to place on exhibition a case showing a species of Bird mounted with a representation of its habitat. This was in the year 1865, and the group, that of the Bald Coot, was exhibited at the British Association Meeting held in Birmingham, the same year. It is still in existence and because of its historical interest is placed on exhibition.

Considerable advances in technical detail have been made since then, and the collection now possesses a large number of highly educational and artistic groups mounted on this principle, the work on which has all been done in the Museum. The Committee has been fortunate in possessing on the staff an artist in taxidermy, the present Head Taxidermist and Assistant in Vertebrate Zoology, Mr. J. W. Cutmore, and I have pleasure in acknowledging his skill in this work.

This little booklet is on the lines of the British Museum Guide, from which much useful help has been received.

I hope that this "Guide and Handbook," will serve not only as a useful companion to the visitor while in the Museum Gallery, but also as an instructive and interesting handbook for future reference.

JOSEPH A. CLUBB,

Curator of Museums.

FREE PUBLIC MUSEUMS,

LIVERPOOL, *January*, 1914.

INTRODUCTION.

The latest list of British Birds contains about 400 species. But opinion differs much as to the number which should be allowed to rank as British. Birds are not subject to physical barriers, such as affect mammals, reptiles or fresh water fishes, and their ranks are constantly reinforced by migrants from the continent and even from the far distant shores of America. Thus in addition to the resident species and annual migrants, the British Islands are visited by straggler species which have been blown out of their course on migration—so that birds which have occurred but once may be included in the British List, and others are doubtful as not sufficiently authenticated. Of the total number about 130 are residents (species that breed and are found in this country throughout the year), about 55 are regular summer visitors or migratory birds which breed here, about 70 are spring and autumn migrants, and winter visitors which do not breed here, the remainder being rare and accidental wanderers.

The following lists of these respective groups, omitting the rare and accidental visitors, may be useful. All birds that may be found throughout the year in some part of the British Islands are included in the "Resident" list, but it is open to question whether certain of these, of which the main body is migratory, should be so regarded.

A.—RESIDENT BIRDS.

Included in this list are all species of which representatives remain throughout the year in some part or other of the British Islands. Certain of these species have their numbers greatly augmented at certain times in the year by visitors from the continent.

Blackbird	Capercaillie
Bullfinch	Chaffinch
Bunting, Cirl	Chough
" Corn	Coot
" Reed	Cormorant
" Yellow	" Green (Shag)
Buzzard, Common	Crossbill

Crow, Carrion
 „ Hooded
 Curlew, Common

Dipper
 Diver, Black-throated
 „ Red-throated
 Dove, Ring (Wood Pigeon)
 „ Rock
 „ Stock
 Duck, Eider
 „ Garganey
 „ Mallard
 „ Pintail
 „ Pochard
 „ Scoter, Common
 „ Sheld., Common
 „ Shoveller
 „ Teal
 „ Tufted
 „ Widgeon
 Dunlin

Eagle, Golden

Falcon, Peregrine

Gannet
 Goldfinch
 Goosander
 Goose, Grey Lag
 Grebe, Great Crested
 „ Little
 Grouse, Black
 „ Red
 Greenshank
 Greenfinch
 Guillemot, Black
 „ Common
 Gull, Black-headed
 „ Common
 „ Great Black-backed
 „ Lesser
 „ Herring
 „ Kittiwake

Hawfinch
 Hawk, Sparrow
 Harrier, Hen
 Heron, Common

Jackdaw
 Jay

Kestrel
 Kingfisher
 Kite, Common

Lapwing (Peewit)
 Lark, Sky
 „ Wood
 Linnet

Magpie
 Merganser, Red-breasted
 Merlin
 Moorhen

Nuthatch

Osprey
 Owl, Barn
 „ Little
 „ Long-eared
 „ Short-eared
 „ Tawny (Wood Owl)
 Oyster Catcher

Partridge, Common
 „ Red-legged
 Petrel, Fulmar
 „ Leach's Fork-tailed
 „ Storm
 Pheasant
 Pipit, Meadow
 „ Rock
 Plover, Golden
 „ Ringed
 Ptarmigan

Rail, Water
 Raven
 Razorbill
 Redpoll, Lesser
 Redshank
 Robin
 Rook

Shearwater, Manx
 Siskin
 Skua, Arctic or Richardson's
 „ Great
 Snipe, Common
 Sparrow, Hedge
 „ House
 „ Tree

Starling
 Stonechat
 Swan, Mute

Thrush, Mistle
 „ Song
 Tit, Bearded
 „ Blue
 „ Coal
 „ Crested
 „ Great
 „ Long-tailed
 „ Marsh

Tree Creeper
 Twite

Wagtail, Grey
 „ Pied
 Warbler, Dartford
 Woodcock
 Woodpecker, Great Spotted
 „ Green
 „ Lesser
 Wren, Common
 „ Golden Crested

B.—MIGRATORY BIRDS.

(a) *Summer Visitors.*

Includes all species which visit the British Islands for nesting purposes.

Blackcap
 Bittern, Little
 Buzzard, Honey

Chiffchaff
 Corncrake (Landrail)
 Crane, Spotted
 Cuckoo
 Curlew, Stone

Dotterel
 Dove, Turtle

Flycatcher, Spotted
 „ Pied

Garganey
 Grebe, Black Necked or Eared

Harrier, Montague's
 Hobby

Martin, House
 „ Sand

Nightingale
 Nightjar

Oriole, Golden
 Osprey
 Ouzel, Ring

Phalarope, Red-necked
 Pipit, Tree
 Plover, Kentish
 Puffin

Quail

Redstart

Sandpiper, Common
 Shrike, Red-backed
 Swallow
 Swift

Tern, Arctic
 „ Black
 „ Caspian
 „ Common
 „ Gull-billed
 „ Little
 „ Roseate (rare)
 „ Sandwich

Wagtail, Blue-headed
 „ Yellow
 „ White
 Warbler, Garden
 „ Grasshopper
 „ Marsh
 „ Savi's
 „ Sedge
 „ Reed
 „ Willow
 „ Wood

Wheatear
 Whinchat
 Whitethroat
 „ Lesser
 Whimbrel
 Wryneck

(b) *Winter Visitors and Passing Migrants.*

Includes the regular winter visitors and migrants making a short stay in the British Islands on their autumn and spring passage.

Auk, Little	Hoopoe
Avocet	Harrier, Marsh
Bittern	Knot
Brambling	Lark, Shore
Bunting, Lapland	Nutcracker
„ Ortolan	Owl, Scops
„ Snow	„ Snowy
Buzzard, Rough-legged	„ Tengmalm's
Crake, Little	Pastor, Rose-coloured
„ Baillon's	Phalarope, Grey
Duck, Ferruginous	Pipit, Scandinavian Rock
„ Gadwall	Plover, Grey
„ Golden-eye	Pratincole
„ Long-tailed	Redpoll, Mealy
„ Scoter, Velvet	Redstart, Black
„ Scaup	Redwing
Diver, Great Northern	Redshank, Spotted (Dusky)
Eagle, White-tailed	Ruff
Falcon, Greenland	Sanderling
Fieldfare	Sandpiper, Green
Firecrest	„ Wood
Goose, Bean	„ Purple
„ Bernacle	„ Curlew
„ Brent	Shrike, Great Grey
„ Pink-footed	Snipe, Great
„ White-fronted	„ Jack
Godwit, Black-tailed	Smew
„ Bar-tailed	Skua, Pomatorhine
Grebe, Red-necked	Stint, Little
„ Slavonian	„ Temminck's
Goshawk	Swan, Bewick's
Grosbeak, Pine	„ Whooper
Gull, Glaucous	Turnstone
„ Ivory	Waxwing
„ Iceland	
„ Little	

The Lancashire and Cheshire records contain about 260 species, so that about 130 species recorded in other parts of the British Isles have not been seen in this neighbourhood. Of this total the resident species

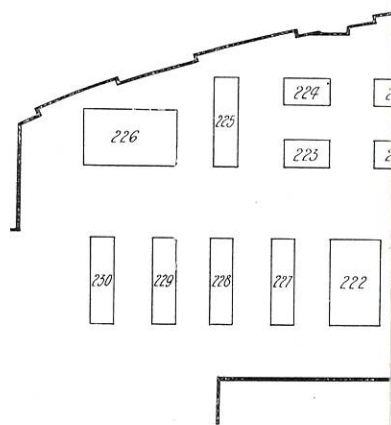
number about 85, the summer visitors or migratory birds which breed about 31, the winter visitants and migrants making a short stay on their autumn and spring passage, but do not breed here, about 77, the remainder being stragglers or occasional visitors.

In the British Bird Gallery all *nesting birds* of the neighbourhood, together with species common in other parts of the British Islands, are mounted with nests and natural surroundings, and in the following pages a short account is given of each of these species, stating if resident or summer migrant, the character of country frequented, nature of food, colour of eggs and number of clutch, character of nest and other additional points of interest.

The *winter migrants* and species that have only been recorded on rare occasions are on exhibition. Some of these latter such as the Collared Pratincole, which is the first recorded specimen in Britain, are of special interest.

A case is added illustrating the changes in plumage of many birds according to age and season; also a case of domesticated birds.

In addition to a cabinet of British Bird's Eggs there is a case illustrating many interesting facts connected with egg structure, texture, colour, form, etc.



PLAN OF BIRD GRO

The Groups are numbered 101 to 232, and they are described on the following pages. Given the location in the Reference List the birds arranged

HANDBOOK AND GUIDE TO THE BRITISH BIRDS.

In the British Bird Gallery the cases are numbered 101 to 232. A plan of the arrangement of the cases is given on the opposite page, and a reference list and index to the case numbers, with the common names of the birds arranged alphabetically, is given at pp. 67-69, and the species are generally, but not exactly, arranged in scientific sequence.

Case 101.

ROOK (*Corvus frugilegus*).

A resident, very generally distributed over the wooded and cultivated districts of the British Islands. This bird is gregarious in its habits and resorts in large companies, early in the spring, to the same "rookery" year after year. These are usually situated in the neighbourhood of houses, and the nests, constructed of sticks and twigs, lined with rootlets, wool, etc., are placed in the tops of tall trees. From four to six eggs are laid (see British Bird Egg Cabinet, drawer 6) resembling those of the Hooded Crow. The food consists chiefly of insects and their larvæ, but in dry seasons, the nests of other birds are systematically robbed of their eggs by rooks. The Rook may be distinguished from the Carrion Crow by its apparently larger bill, due to the absence of bristles on the cere at the base. This bareness is said to be caused by its burrowing with its bill in the ground. The gregarious habit of the species is also a distinguishing characteristic.

CARRION CROW (*Corvus corone*).

Local names: Kar Crow, Doup Crow.

A resident, locally distributed throughout England, but local and rare in the north and west of Scotland and in Ireland, where the Hooded Crow is said to take its place. It is everywhere becoming rarer through persecution. The nest is composed of sticks and warmly lined with

wool, and is built in a tree or on a ledge of rock. The eggs (see British Bird Egg Cabinet, drawer 6) are from four to five in number and closely resemble those of the Rook and Hooded Crow. The food consists of small mammals, birds and eggs, and all sorts of carrion and refuse. Great damage is done in game preserves by the depredations of these crows.

Case 102.

HOODED OR GREY CROW (*Corvus cornix*).

Local names : Royston Crow, Sea Crow.

The Royston Crow, as this species is also called, visits England and Wales from October onwards in large numbers, while in the north and west of Scotland and in Ireland it is resident. Its favourite food seems to consist of cockles, and when the bird finds a difficulty in opening one of them, it flies up in the air and lets the mollusc fall upon a rock or hard ground so as to break the shell. It also does great damage to the eggs of game birds, and is considered by the gamekeeper quite as destructive as the Carrion Crow. The nest is a solid structure, often built in cliffs, of the usual Corvine type; composed of twigs and branches, coarse roots, moss, wool, and a few feathers. There are three to six eggs in a clutch, of a green or greenish blue, generally clouded with brown spots and mottlings and overlaid with larger mottlings of greenish-brown (see British Bird Egg Cabinet, drawer 6).

Case 103.

RAVEN (*Corvus corax*).

A resident species, local and diminishing in numbers. A few pairs are still found in the Northern Counties, but it is only in the milder parts of the north and west that the Raven occurs regularly, where it breeds in the cliffs of the high fells and on crag ledges of unfrequented dales.

Although exceedingly rare in Lancashire, it may be still seen on some of the wilder hills in the north of the County, and there are few of the hill districts without some rocky crag which takes its name from the bird (Mitchell, "Birds of Lancashire," p. 83). In Cheshire, Ravens were plentiful in the 15th Century, and formerly frequented the marshes of the Dee Estuary. A pair nested on Hilbre Island in 1857 (Coward, "Birds of Cheshire," p. 102).

The nest is large and bulky and the same nest may be occupied year after year. The eggs (see British Bird Egg Cabinet, drawer 6) are laid early in the year and do not greatly exceed in size those of the Carrion Crow. They are three to six in number, and have a ground colour of bluish or greyish-green, thickly blotched and overlaid with brown.



HOODED OR GREY CROW GROUP.
CASE 102.



THE RUFF GROUP.
CASE 106.

Case 104.

CHOUGH (*Pyrrhocorax graculus*).

Local name : Red legged Crow.

The Chough, or Red-legged Crow as it is sometimes called, is resident among sea-cliffs in Ireland, the west of Scotland, Wales, Cornwall, Devon and Dorsetshire, but there are no suitable places nearer to Liverpool than Anglesea and the Isle of Man. It is of sedentary habits and rarely wanders far inland. The nest is generally placed in holes in cliffs or in caves. It is made of sticks and stems of heather and is lined with wool and hair. The eggs are three to six in number and are creamy white in colour, with greatly varying grey underlying marks and brown spots (see British Bird Egg Cabinet, drawer 5).

Case 105.

JACKDAW (*Corvus monedula*).

A resident generally distributed over the British Islands and abundant throughout Lancashire and the local area. It breeds in steeples and old beeches or oaks and is equally at home on cliffs, ruins, rabbit-warrens or old trees in wooded districts. Its nest consists of sticks, with smaller twigs and wool, or other soft materials forming the bed. Sometimes when built in hollow trees or in towers the accumulation of sticks is immense in order to raise the surface to within a convenient height from the entrance, instances being on record where the mass of sticks was 10 to 12 feet in height. The eggs, six in number, are bluish-green, marked with greyish or brownish spots (see British Bird Egg Cabinet, drawer 5).

Case 106.

RUFF (*Pavonella pugnax*).

The Ruff is now chiefly a migrant, but in the fens and marshes of the eastern counties it used to breed. It mostly visits our eastern and southern coasts and is sometimes found on inland waters. The males vary remarkably in plumage, and the breast shield and ruff, which the bird dons at the period of the nesting season, is one of the most striking nuptial garments of any bird in the world. A tuft of long rough grass is invariably chosen for the nest, which is deep and always well concealed. The eggs, four in number, vary much in markings. The ground is generally olive, boldly spotted and blotched with rufous-brown. In the group the artist portrays a very characteristic scene where several males are engaged in deadly combat for possession of the female, who sits calmly by, awaiting the issue of the fight.

Case 107.MAGPIE (*Pica rustica*).

Local names : Pye, Pyanet.

The Magpie is resident and common all the year round in the woods of our local area ; and throughout the British Islands, except in some parts of Scotland and of the south-east of England. In many districts it is much persecuted, and has been almost exterminated on account of the damage it does to eggs and young of game birds, although it is very useful in destroying quantities of harmful insects and grubs. The nest is large, composed of sticks, the base being cemented with mud or clay and generally placed high up in the fork of a tree. It is suggested that the loading of the base is for the purpose of steadying the nest by adding to its weight. A screen of sticks to shield the sitting bird from attack, is erected over the nest. It nests from mid April to early May, and lays six to eight eggs of a greenish colour, with small purple and brown markings (see British Bird Egg Cabinet, drawer 5).

Case 108.JAY (*Garrulus glandarius*).

The Jay is resident in most of the higher woodlands of our local area and of Britain generally, except the north of Scotland and north-west of Ireland. It was formerly more common, being persecuted in many localities on account of its egg-stealing and fruit-eating propensities. It hops on the ground instead of walking like the rest of the crow family and frequents thickly-wooded districts, building its nest at a height of from eight to twenty feet from the ground on a branch or in a high bush. The nest is open at the top and made of short twigs with a lining of fine roots and grass. It builds in April and early May, laying from four to seven eggs, which show considerable variation in their markings (see British Bird Egg Cabinet, drawer 5).

Case 109.COMMON STARLING (*Sturnus vulgaris*).

Local names : Shepster, Stare.

The Common Starling is one of the commonest birds in our local area, and indeed of Europe. It eats fruit, but is most useful in destroying immense quantities of harmful grubs and insects, and thus proves to be a great friend of the farmer. It nests in chimneys, trees and under eaves, at the end of April. The nest, a large untidy structure is composed of straw and grass, sometimes lined with wool or feathers, in which are laid four to seven bluish-white eggs (see British Bird Egg Cabinet, drawer 5). It is very prolific, rearing two broods in the season. The young Starling differs much in plumage from that of the parents. A young specimen in its first plumage is seen in the group perched on top of the tree stump.

Case 110.BULLFINCH (*Pyrrhula europæa*).

Local names : Thick-bill, Nope.

Generally distributed in wooded districts throughout Great Britain and Ireland, and frequenting high and tangled hedgerows, whence it makes its way to orchards and gardens, where it has earned for itself a bad reputation by the regular way in which it proceeds to bite off the blossom buds of one bough after another. A white-thorn hedge or fork of some evergreen bush or tree are among the sites selected for the nest. (The one here shown is built in a fir tree). The eggs, four or five in number (see British Bird Egg Cabinet, drawer 5), are laid in the early part of May.

Case 111.CHAFFINCH (*Fringilla cælebs*).

Local names : Pink-Pink, Fleckie.

A resident species and generally distributed throughout the cultivated and wooded portions of the British Islands. The food consists mostly of insects, varied, especially in winter, with seeds. The nest is usually placed in a fork of the lower branches of a tree (here shown in a yew tree) or in a bush, and is remarkable for its beautiful construction, the whole of the materials being woven together so as to produce a shapely nest of almost uniform consistency. It is generally covered with lichen or other highly decorative material, and a nest has been found carefully covered with confetti. The eggs vary in number from four to six, and are of a pale greenish-blue, generally suffused with reddish-brown and dark crimson markings (see British Bird Egg Cabinet, drawer 4). The eggs are laid in April or May, and two broods are generally reared in the season.

Case 112.GREENFINCH (*Ligurinus chloris*).

Local name : Green Linnet.

A resident and generally distributed species, frequenting cultivated and wooded districts, and in times of hard frost seen in association with sparrows, starlings and robins around dwellings. Its food consists mostly of grain, seeds and insects. The nest, a somewhat loose structure of coarse fibrous roots, moss and wool, with a lining of hair and feathers, is placed in hedges, shrubs and evergreens and even in trees (here shown in ash tree). The eggs, from four to six in number, laid in April or May, are in colour white or pale French white, with blotches and spots at the larger end of reddish-brown and purplish-grey (see British Bird Egg Cabinet, drawer 4). Two broods are often reared in the season.

Case 113.LESSER REDPOLL (*Linota rufescens*).

Local names: Grey Bob, Jitty.

A resident, common in the lowlands of the northern counties. It feeds on the seeds of the thistle, groundsel, dandelion and other composite plants. The nest, which is usually built in a low tree or bush in some sheltered position, is very beautifully made. It is formed outwardly of a few fine twigs as a foundation, with dry grass stems, intermixed with moss and wool and lined with vegetable down, the whole structure being very neat and compact. The eggs are very small and are four to six in number (see British Bird Egg Cabinet, drawer 4). Two broods are frequently reared in a season.

Case 114.TWITE (*Linota flavirostris*).

Local name: Moor Linnet.

A resident species frequenting heaths and moors, but during the winter months it leaves the higher ground and may be seen in flocks near the sea coast. The food consists mainly of seeds and in this, as in flight, general habits and appearance, it much resembles the Linnet. The nest, made of twigs and roots, lined with wool and feathers, is usually placed among heather or in a low bush, and often on the ground. Four to six eggs, of pale greenish blue, blotched with reddish-brown (see British Bird Egg Cabinet, drawer 5) are laid towards the end of May. It is, however, easily distinguished from the Linnet, by its yellow beak.

Case 115.LINNET (*Linota cannabina*).

Local names: Brown Linnet, Gorse Finch.

A resident and common species throughout the country, frequenting whin-covered moors and gorse fields not far from the sea, but its numbers are affected by the professional bird-catchers. The food consists mainly of seeds. The nest is generally placed in gorse or low bushes, and the eggs, four to six in number, are laid at the end of April or beginning of May, and are french white in colour, more or less tinged with green or blue and generally spotted or blotched with reddish-brown and purplish-red (see British Bird Egg Cabinet, drawer 4). A second brood is often reared later in the season.

Case 116.GOLD-FINCH (*Carduelis elegans*).

Generally distributed in the British Islands throughout the summer months, but far less numerous than formerly, due to insufficient protection from bird-catchers. Mostly migratory, leaving in October and

returning in April, but in mild winters many individuals remain. The neat compact nest of moss, fine twigs and roots, lined with down, feathers or hair, is usually formed about the middle of May, in the fork of a tree or more seldom in a hedge. The eggs, four to six in number, are greenish white, spotted and streaked with purplish-brown (see British Bird Egg Cabinet, drawer 4). Two broods are produced in a year.

Case 117.SISKIN (*Carduelis spinus*).

Local name: Aberdevine.

Known principally in England and Ireland as a winter visitor, but it breeds regularly in many parts of Scotland. The nest is very difficult to find, being usually placed in the fork of a horizontal branch of a pine tree, some distance from the stem, and a considerable height above the ground. Five or six eggs (see British Bird Egg Cabinet, drawer 4) are laid for one sitting, and two broods are generally reared in a season, the first leaving the nest early in May.

Case 118.WOOD-LARK (*Alauda arborea*).

A decidedly local species, more plentiful in the southern counties of England, and decreasing in numbers towards the north, though it has been recorded as breeding in Scotland. It is resident in Ireland in a few places only. As its name implies it is a more woodland bird than the sky-lark, frequenting the neighbourhood of woods and plantations, and always affecting trees. Its nest is placed on the ground and skilfully concealed under a tuft of herbage or a small bush. It is composed of dry grass and fine rootlets, lined with finer grass and a little hair, and is more finely put together than the nest of the sky-lark. The eggs are four to five in number (see British Bird Egg Cabinet, drawer 6), and have a white or reddish-white ground colour, numerous dotted with fine reddish-brown and grey spots.

Case 119.NIGHTINGALE (*Daulias luscini*).

This noted songster is generally distributed, from the beginning of April till September, over the greater part of England, but is rare in the northern and western counties, and in Wales. It has been recorded in Cheshire, but is of doubtful occurrence in Lancashire. Its favourite resorts are small woods and coppices in the neighbourhood of water and damp meadows, and, till the young are hatched in June, its well known song can be heard at almost any hour of the day or night. The

nest, composed of dead leaves, is generally placed on or near the ground in low undergrowth. From four to six eggs (see British Bird Egg Cabinet, drawer 1), usually of an olive brown colour, and protectively coloured by resembling the colour tones of the surroundings, are laid about the middle of May.

Case 120.

CROSSBILL (*Loxia curvirostris*).

This species is a somewhat rare resident in our islands. It has been known to breed in numerous instances in England, but is more often met with in the northern counties of Scotland, and parts of Ireland. Its principal food is the seed of the pine and the larch, and the peculiar shape of the bill is admirably adapted for tearing open the cones. Four or five eggs (see British Bird Egg Cabinet, drawer 5) are laid as early as February or March, and the nest is usually situated in a pine tree some distance from the ground.

Case 121.

HAWFINCH (*Coccothraustes vulgaris*).

A fairly numerous and increasing resident, but so great is its shyness, that it undoubtedly exists in many districts without revealing its presence. The food consists of the seeds of trees, the fleshy pulp of the most succulent fruits being rejected for the sake of the enclosed kernel. The love of the Hawfinch for green peas is notorious. The nest, generally placed in old hawthorn, oak, apple or other fruit trees (here shown in the cherry), is built of twigs mixed with grey lichen, and lined with fine roots and hair. The four or five eggs (see British Bird Egg Cabinet, drawer 4) are laid at the end of April or early in May. One brood only is reared in the season. It may be noted that the first plumage of the young birds is, in this species, quite different to either of its parents (see group), whereas in most finches the young bird in its first plumage resembles the female.

Case 122.

GARDEN WARBLER (*Sylvia hortensis*).

A common summer migrant arriving in the end of April, and often seen late in the autumn in gardens and orchards. It feeds on insects, peas, various fruits and berries. The nest is usually built in low trees and brambles (here shown in a sycamore tree) and is loosely constructed of grass stems, with a well shaped inner cup of horsehair. The eggs, four or five in number, are white, marked and blotched with greenish-brown and violet grey (see British Bird Egg Cabinet, drawer 2).

Case 123.

RED-BACKED SHRIKE (*Lanius collurio*).

A summer visitor arriving early in May, and irregularly distributed throughout the wooded districts of England and Wales during the summer months. The food consists of small mammals, birds, lizards, bees, and other insects, and from its curious habit of impaling its prey on thorns, this species and its allies are commonly known as "Butcher Birds" (note the larder of the pair here shown). It has also been suggested that by hanging up small mammals and birds in this way, flies and other insects are attracted by their decomposition, and that therefore the so-called "larder" is used as a bait to attract insects upon which the Shrike feeds. The nest, made of moss and roots, lined with dry grasses, hair and wool, is usually placed in a thorn bush or thick hedge, five or six feet from the ground. Four to six eggs are laid which vary greatly in colour and markings (see British Bird Egg Cabinet, drawer 4).

Case 124.

REED BUNTING (*Emberiza schoeniclus*).

Local names: Blackcap, Reed Sparrow.

Generally distributed and resident throughout the British Islands, frequenting the vicinity of water and swampy places when bordered by osiers, reeds or rushes. The food consists of insects and their larvæ, small freshwater animals, seeds and grain. The nest is usually placed among tufts of rushes on or near the ground, and is made of dry grass and dead flags, lined with hair and flowers of the reed. The eggs, four to six in number, are purplish-grey, boldly streaked with dark purplish-brown (see British Bird Egg Cabinet, drawer 5). Two and sometimes three broods are reared in a season.

Case 125.

CORN BUNTING (*Emberiza miliaria*).

A resident and locally abundant species, especially on the lowlands of the Mersey valley, and in corn fields and other arable land. Seeds and grain form the principal food. The loosely constructed nest, of dry grass and roots, lined with hair, is always placed on the ground among growing corn, clover or grass, or under the shelter of a low bush. Four to five eggs of a dull purplish-white, blotched and streaked with dark purplish-brown (see British Bird Egg Cabinet, drawer 5) are laid about the end of May.

Case 126.**YELLOW BUNTING** (*Emberiza citrinella*).

Local names : Yellow Hammer, Yellow Yoldring, Bessy Blakeling.

A common resident, abundant everywhere, frequenting farmyards and lawns in company with sparrows. The food consists mainly of insects, but in winter the seeds of many noxious weeds are eaten, thus doing a good service to the agriculturist. The nest, constructed of dry grass and moss, lined with hair and finer material, is usually placed on or near the ground under tangled herbage, or in a low bush. The four or five eggs are of a purplish-white, streaked and spotted over with hair-like markings of a purplish-black (see British Bird Egg Cabinet, drawer 5). Two broods are produced in the year, the first set of eggs being laid in the middle of April.

Case 127.**(1) SNOW BUNTING** (*Plectrophenax nivalis*).

Local names : Shore Lark, Mountain Bunting.

An annual winter visitant to our shores in considerable numbers. (See British Bird Egg Cabinet, drawer 5).

(2) CIRL BUNTING (*Emberiza cirrus*).

A very rare visitor locally. It is recorded to have bred at Formby. (Mitchell, "Birds of Lancashire," Ed. 2, p. 79). (See British Bird Egg Cabinet, drawer 5).

(3) ORTOLAN BUNTING (*Emberiza hortulana*).

A male of this species was killed near Manchester in November, 1827, and was figured by Selby (Mitchell, "Birds of Lancashire," Ed. 2, p. 79). (See British Bird Egg Cabinet, drawer 28).

(4) LAPLAND BUNTING (*Calcarius lapponicus*).

A very rare winter visitant, and only four times observed in Lancashire between 1834 and 1892. (Mitchell, "Birds of Lancashire," p. 73). (See British Bird Egg Cabinet, drawer 28).

Case 128.**SKYLARK** (*Alauda arvensis*).

This well-known songster is widely distributed throughout the British Isles, and frequents the vicinity of cultivated fields and grass lands. Its food consists of seeds, insects, and worms. The nest of dry grass is placed on the ground under tufts of grass, or in growing corn. The eggs are three to five in number, of a dull grey ground colour, thickly spotted with brown. (See British Bird Egg Cabinet, drawer 6). Two broods are usually produced in a season.

Case 129.**TREE-PIPIT** (*Anthus trivialis*).

A summer visitor arriving early in April, frequenting enclosed and woody districts. The male has a song not unlike a canary, and he may be seen perched on the top of a bush or tree, from whence he rises singing into the air, returning often to the branch from which he started. The food consists of insects and small seeds. The nest is placed on the ground near woods and plantations, and is formed of moss and dry grass, lined with hair. Four to six eggs are laid varying greatly in colour and marking (see British Bird Egg Cabinet, drawer 3).

Case 130.**MEADOW-PIPIT** (*Anthus pratensis*).

Local name : Titlark.

Generally distributed throughout the British Islands both in the high moors and low-lying districts. Locally it is the commonest bird on the sand-hills. Its food consists of insects, worms, snails, and seeds. Large numbers migrate for the winter but many individuals remain throughout the year. The nest is placed on the ground and is made of dry grass, lined with finer grass and hair. The eggs, numbering from four to six, are greyish white, thickly mottled with shades of brown (see British Bird Egg Cabinet, drawer 3), and the resident birds breed earlier than the migrants—usually two broods a year.

Case 131.**ROCK-PIPIT** (*Anthus obscurus*).

Frequents the more rocky portions of Great Britain, especially during the breeding season—Walney Island is a well-known breeding haunt of this species. The sandy coasts of our locality are unsuited to this rock-loving species, but its nest has been found on the rocky islets of Hilbre (Coward, "Birds of Cheshire," p. 66). The food consists mainly of small marine shells, crustaceans and insects which may be found among seaweed. The nest is found in rock crevices on the grassy ledge of a cliff, or among clumps of seapinks. The eggs are greenish grey, mottled with olive brown, and number four or five (see British Bird Egg Cabinet, drawer 3). Two broods are reared in a season.

Case 132.**DARTFORD WARBLER** (*Melizophilus undatus*).

The Dartford Warbler is a resident in the South of England, and is rarely met with in the valley of the Thames and in some of the midland counties. It does not migrate and in severe winters its numbers are liable to be greatly reduced. The nest, placed among the branches of

the thickest furze and difficult to find, is made of grass and furze shoots, lined with a little wool and moss. Four or five greenish-white eggs, with olive or reddish brown markings (see British Bird Egg Cabinet, drawer 2) are laid in the end of April or the beginning of May. Two broods are reared in a season.

Case 133.

WOOD-WARBLER OR WOOD-WREN (*Phylloscopus sibilatrix*).

Local name: Fell Peggy.

One of the latest summer visitors, arriving in the south of England about the middle of April. Though somewhat local, it is not uncommon in wooded districts, preferring old plantations of oak or beech, where it may be seen searching for insects among the higher branches. Its domed nest is always placed on the ground among herbage, and is invariably lined with fine grass and hair, never with feathers. Five to seven white eggs, thickly spotted with purplish-brown and grey (see British Bird Egg Cabinet, drawer 2), are laid about the middle of May.

Case 134.

YELLOW WAGTAIL (*Motacilla raii*).

Local names: Yellow Hand-Stir, Seedfore.

A not uncommon summer visitor, arriving early in April and departing in September. It is generally distributed during the breeding season throughout England, the south of Scotland and in parts of Ireland. The nest, of moss and dry grass, lined with feathers, hair and fine roots, is placed upon the ground and well concealed among rank grass and herbage. Four to six greyish-white eggs, mottled with yellowish brown (see British Bird Egg Cabinet, drawer 3), are laid towards the end of May. Two broods are sometimes reared in the season.

Case 135.

GREY WAGTAIL (*Motacilla melanope*).

Local name: Rock Wagtail.

The Grey Wagtail is nowhere a very abundant species and is far more shy and local than the other Wagtails. It frequents secluded spots especially the neighbourhood of clear, rocky or gravelly water-courses. The nest is generally close to a stream on some rugged part of the bank, and is made of fibrous roots, dry grass and moss, lined with wool and hair or feathers. The eggs are from five to six in number, french white, closely mottled, and suffused with a very pale brown or olive (see British Bird Egg Cabinet, drawer 3). Two broods are reared in a season, the first is usually fledged by the end of May, and the second in July.

Case 136.

MARSH TITMOUSE (*Parus palustris*).

A resident species, frequenting low-lying land and swampy ground near woods. Insects form its principal food, and in winter the seeds and berries of various plants. The nest, made of moss, wool and hair, with a lining of down, is usually placed in a hole in some decayed tree stump (here seen in stump of willow). Five to eight white eggs, spotted with bright red (see British Bird Egg Cabinet, drawer 3), are laid from the end of April onwards.

Case 137.

COAL TITMOUSE (*Parus ater*).

A resident but somewhat locally distributed species, frequenting woods, plantations and shrubberies, particularly such as contain firs. Insects form the principal food but seeds are also eaten by them. The nest is placed in the crevice of a loosely-built wall, as here shown, or in a hole in a rotten stump, often excavated by the bird, near the ground. It is built of moss, mixed with wool and hair felted together. The eggs, from six to eight in number, are white, spotted or speckled with bright red (see British Bird Egg Cabinet, drawer 3).

Case 138.

GREAT TITMOUSE (*Parus major*).

Local names: Ox-eye Tit, Sawsharper.

An abundant resident frequenting woods, gardens or enclosed and sheltered districts generally. Insects form its main food, supplemented in autumn and winter with a variety of hard seeds. The nest, consisting of a foundation of moss, with a thick felted layer of short hairs, is usually built in a hole of a wall, as here shown, or in a tree, but many odd sites, such as the inside of a pump or pillar post box, are frequently chosen. The eggs, from six to twelve in number, are white, blotched, spotted or speckled with light red (see British Bird Egg Cabinet, drawer 3).

Case 139.

BLUE TITMOUSE (*Parus caeruleus*).

Local names: Blue Nope, Blue Cap.

A common resident, tame and familiar in winter, frequenting orchards and gardens in the neighbourhood of dwellings. Insects and their larvæ form its principal food, supplemented in autumn by fruit, but the small damage done in the gardens is more than compensated for by the wholesale destruction of insect pests. The nest is made of moss, hair and feathers, and is generally placed in a hole in a tree, as here shown, or a wall. Six to nine white eggs are laid in April (see British Bird Egg Cabinet, drawer 3).

Case 140.WREN (*Troglodytes parvulus*).

Local name: Kitty Wren.

A familiar resident, generally distributed and its number greatly increased by autumn immigration. Its active, fearless ways and loud cheerful song have endeared it to all. The beautifully constructed dome-shaped nest with the entrance at the side, is made of leaves, moss and grass, and occasionally lined with feathers. In situation it is very varied, always well concealed in dense tangled vegetation or in a hole in a tree trunk (as here shown). The eggs, from six to nine in number, are white spotted with red (see British Bird Egg Cabinet, drawer 3). The nesting season begins early, and two broods are produced in the season.

Case 141.GOLD-CRESTED WREN (*Regulus cristatus*).

This resident species is the smallest of our British birds, and is generally distributed wherever plantations of larch and fir are to be found. The food consists of insects, and being a very social bird they are frequently observed searching for food in the company of flocks of Tits and Creepers. The nest is beautifully constructed—moss and lichen felted together with wool and spiders' webs and lined with feathers. It is generally placed beneath the extremity of a branch of some evergreen tree, such as fir, yew (as here shown), or cedar. Five to ten eggs of a pale buff, minutely freckled with yellowish brown (see British Bird Egg Cabinet, drawer 2), are laid early in the season.

Case 142.LONG-TAILED TITMOUSE (*Acredula caudata*).

Local name: Bottle Tit.

The resident form of this species is generally distributed throughout the British Islands. Its food consists of insects and their larvæ. The nest is usually placed in a bush such as a holly or gorse bush (as here shown), but occasionally in the lichen-covered branches of a tree. It is oval in shape, formed of moss and wool, and felted together by spiders' webs, encrusted with lichens and lined with feathers. The entrance is placed in the upper part of the side. Seven to ten eggs, white in colour with indistinct red spots (see British Bird Egg Cabinet, drawer 3), are laid in the latter half of April.

Case 143.SPOTTED FLY-CATCHER (*Muscicapa grisola*).

A common summer visitor, appearing about the first week in May, generally distributed throughout the British Islands. Its food consists

principally of insects, which it captures on the wing. The nest, usually placed among creepers or trellis-work, or in a hole in a wall or tree (as here shown), is made of moss, lichen and strips of bark, lined with wool, hair and feathers. The eggs, varying in number from four to six, are pale greenish-white, spotted and blotched with a deep rusty hue (see British Bird Egg Cabinet, drawer 4). Two broods are often laid in a season.

Case 144.TREE SPARROW (*Passer montanus*).

The Tree Sparrow is a much rarer bird than the House Sparrow, and its distribution is more local. It is never seen in towns, but it may approach villages, where it associates with the house sparrow. It frequents old trees more or less remote from houses and is a very active bird with rapid flight. Its food is similar to that of the House Sparrow, but consists more of small seeds than grain. The Tree Sparrow is rather a late breeder and is exceedingly partial to building in pollard willows. The nest is loosely put together, and is made of dry grass, straw and rootlets. The eggs, from four to six in number, vary considerably in colour in different clutches (see British Bird Egg Cabinet, drawer 4), and two, sometimes three, broods are reared in a season.

Case 145.NUTHATCH (*Sitta cæsia*).

Local name: Kitty Wren.

A common resident in the southern and central districts of England, and in parts of Wales, but rare towards the north, only seen as a straggler in Scotland, and unknown in Ireland. It feeds on insects, acorns and hard seeds. It is extremely partial to hazel nuts, which it wedges in some crevice and breaks by repeated blows from its strong bill, hence its name Nuthatch (i.e., Nuthack). The nest, of dry leaves and bark, is built in a hole of a tree or other cavity, the entrance being reduced to a small aperture with clay. Five to six white eggs, blotched with reddish-brown (see British Bird Egg Cabinet, drawer 3) are laid about the end of April.

Case 146.HOUSE SPARROW (*Passer domesticus*).

Commonly found throughout the British Islands, attached to the habitation of man, appearing and rapidly increasing wherever the land is brought under cultivation. It is not particular as to site for its nest, which is placed in any suitable situation on buildings or trees in their vicinity. When in trees it constructs a large domed nest (as here shown) with an entrance in the side. It

frequently takes possession of the nests of the House and Sand Martin, driving away the rightful occupants. Four to six eggs (see British Bird Egg Cabinet, drawer 4) are laid, and, two, often three, broods are reared during the season.

Case 147.

LESSER SPOTTED WOODPECKER (*Dendrocopus minor*).

A resident species, much more rarely seen than the Great Spotted Woodpecker, owing to its small size and partiality for high trees, but it is fairly common in many parts, especially in the southern half of England. The food consists almost entirely of timber-haunting insects. The nest-hole is usually made in the branches of tall trees, but sometimes at more moderate elevations, or in pollard willows and hornbeams. Six or seven white eggs (see British Bird Egg Cabinet, drawer 6) are laid at the bottom on the bare wood, about the middle of May.

Case 148.

WRYNECK (*Iynx torquilla*).

Local names: Long-tongue, Cuckoo's Mate or Cuckoo's Leader.

This spring visitor, formerly numerous but now somewhat rare, arrives in England towards the end of March or beginning of April. It is rarely met with in Scotland, except during the autumn migration, and only accidental stragglers are known in Ireland. It frequents orchards and open parks rather than forest districts. It feeds mainly on insects, especially ants and their larvæ. The common name "Wryneck" is derived from its singular habit of twisting and stretching its neck. About the middle of May, convenient holes in hollow trees are used in which to deposit the eggs, white in colour, and from six to ten in number (see British Bird Egg Cabinet, drawer 6).

Case 149.

TREE-CREEPER (*Certhia familiaris*).

A resident species generally distributed throughout the British Islands, but locally it is becoming rarer than formerly. Its long curved claws and stiff-pointed tail feathers enable it to ascend the trunks and branches of trees with ease and rapidity as it searches for the spiders and other insects on which it feeds. The nest is made of roots, grass and moss, lined with wool, feathers, etc., and it is usually concealed under partially detached bark or in a cleft in the bole of a tree, but occasionally it is found under the eaves of a shed or dwelling or in some similar situation. Six to nine white eggs, spotted with light red and pale lavender (see British Bird Egg Cabinet, drawer 3), are laid about the end of April and two broods are reared in a season.

Case 150.

GREATER SPOTTED WOODPECKER (*Dendrocopus major*).

A sparsely distributed resident, chiefly frequenting our fir woods. Though it is generally distributed over Great Britain, but few examples have been recorded from Ireland. It is usually found in the highest branches of trees, feeding on insects and their larvæ, as well as on berries and nuts, but owing to its retiring nature and colour protection it frequently escapes observation. In April, a circular hole is hewn by the birds in the trunk or branch of some tree, a dead one by preference, and within the stem a chamber is excavated for the reception of the eggs. These are white (see British Bird Egg Cabinet, drawer 6), five to seven in number, and are deposited in the bare wood about the middle of May.

Case 151.

GREEN WOODPECKER (*Gecinus viridis*).

Local names: Heyhough or Yaffle.

The largest of the British woodpeckers, resident, and in England and Wales not uncommon in thick woods where it nests, but scarce elsewhere. It is almost unknown in Scotland and Ireland. Its insect food is mostly taken off the tree stems, but it feeds occasionally on the ground, being especially partial to ants and their pupæ. Early in April a circular hole is chiselled in the trunk or branch of a tree, usually decayed, and a nesting chamber is excavated in the heart of the stem. The eggs are glossy white and from five to seven in number (see British Bird Egg Cabinet, drawer 6).

Case 152.

HOUSE-MARTIN (*Chelidon urbica*).

This summer visitor is generally distributed throughout the British Islands, usually arriving about the middle of April, and departing in September or October, though considerable numbers are to be seen even later in the year. The nest is made of mud, shaped like the half of a cup or basin, lined with fine straw and feathers, and entered by a hole in the rim. It is usually attached to the walls of houses under the eaves (as here shown), or it may be otherwise attached to some rock or other vertical surface, but always under some projection so as to be protected from the weather. The same nest is occupied year after year—broken parts being renovated. Four or five white eggs (see British Bird Egg Cabinet, drawer 4) are laid, and two, or even three, broods are reared in a season.

Case 153.SWALLOW (*Hirundo rustica*).

This well-known summer visitor arrives in the South of England early in April and is generally distributed throughout the British Islands till September or October. The nest of mud, open above and lined with dry grass and feathers, is usually built on the rafters of a barn or out-house. The eggs, from five to six in number, are white, spotted with lavender grey and reddish-brown (see British Bird Egg Cabinet, drawer 4). Two broods are reared in a season, the first, hatched from eggs laid early in May, is fully fledged by the end of June, and the second by September. The young birds which are shown in the upper rafters under the tiles in the case, are part of the first brood and are occasionally fed by the parents while engaged in incubating the second set of eggs.

Case 154.SAND-MARTIN (*Cotile riparia*).

One of our earliest spring visitors, arriving towards the end of March and departing by the end of September. It abounds wherever suitable nesting sites occur, i.e., the steep banks of rivers or lakes, sand-pits, gravel quarries or railway cuttings. In such situations tunnels varying from eighteen inches to six feet in length are bored by the birds, the nest, of dried grass, lined with feathers, being placed in an enlarged chamber at the end. Four to six white eggs (see British Bird Egg Cabinet, drawer 4) are laid in the middle of May, and two broods are usually reared in a season.

Case 155.SWIFT (*Cypselus apus*).

The Swift arrives in the British Islands towards the end of April and remains till the end of August, when the majority depart southwards to their winter quarters, though individuals sometimes remain till much later in the year. The flight of the bird is very rapid, and the food, consisting entirely of insects, is taken on the wing. It is interesting to note that all four toes are directed forward, forming a four-tined grapple. They differ in this respect to the Martin and Swallow. The nest is placed under the eaves of buildings, in crevices of cliffs, and, when available, in the crannies of the walls of old ruins (as here shown). The nest is a somewhat flimsy structure of straws, cobwebs, and a few feathers. Two oval white eggs (see British Bird Egg Cabinet, drawer 6) are laid in the end of May or early in June, and incubation lasts for eighteen days. Only one brood, as a rule, is produced in a season.



THE KINGFISHER GROUP.
CASE 157.

Case 156.DIPPER (*Cinclus aquaticus*).

Local names : Bessy Ducker or Dowker, Water Ouzel.

A resident species found throughout the British Islands, wherever there are hills and rapid streams. It not only swims and dives with equal facility but may be seen walking along the bottom, searching for the water insects on which it feeds. The nest, always placed close to the water's edge, is made of moss and leaves, and is oval in form with an entrance at the side. Four to six white eggs (see British Bird Egg Cabinet, drawer 2) are laid early in the year, and sometimes three broods are reared in the season.

PIED WAGTAIL (*Motacilla lugubris*).

Local name : Water Wagtail.

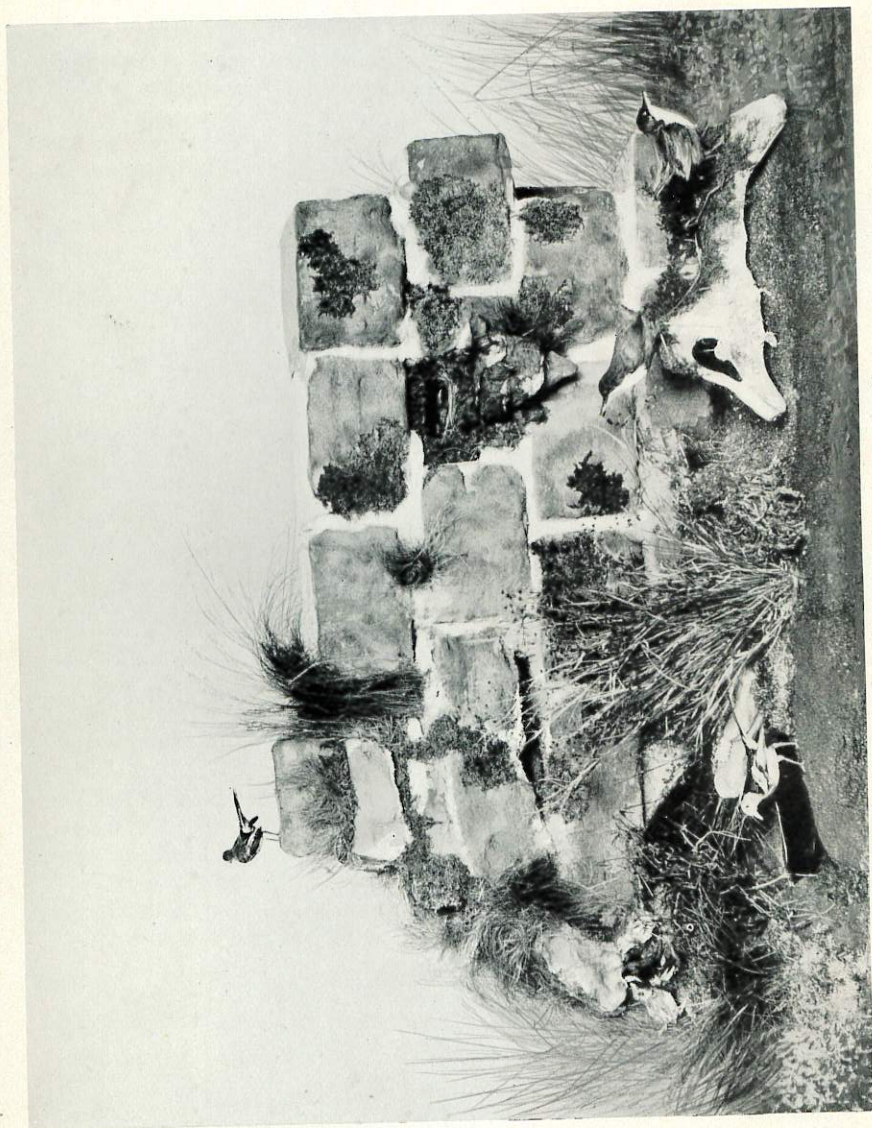
This is a common and generally distributed species throughout the British Islands, especially in the breeding season, but a partial migration takes place in autumn and winter. Flies and aquatic insects form its principal food. The nest, made of moss, dried grass and fibrous roots, lined with hair and feathers, is usually placed in a cleft in a bank or some hole in a wall or rotten tree. Four to six eggs, spotted and streaked with ash brown (see British Bird Egg Cabinet, drawer 3), are laid towards the end of April. Two broods are frequently reared in a season.

Case 157.KINGFISHER (*Alcedo ispida*).

A resident species, common about streams and lakes and on many parts of the coast of England, but less common in Scotland and Ireland. Its food consists of small fish, crustacea and insects. The fish are seized by a sudden plunge from a convenient perch above the water. The nesting place, which is a hole in the bank, is excavated upwards, to prevent flooding, for two or three feet, and terminating in a chamber. No nest is constructed, but on the floor, especially in old nesting places, scales and fish bones are often found, which have been cast up by the young of previous broods. The eggs, from six to nine in number, are rounded, white and highly glossy (see British Bird Egg Cabinet, drawer 6). In the group exhibited part of the bank has been removed to show the internal construction of the burrow, with the eggs lying in the enlarged end.

Case 158.BEARDED TIT OR REEDLING (*Panurus biarmicus*).

This resident species is now almost confined to the Norfolk Broads, the draining of the reedy fens and meres having destroyed many of its



THE PIED WAGTAIL AND DIPPER GROUP.
CASE 156.

former breeding grounds in the eastern and southern counties of England. Its principal food consists of the seeds of the reed, but, in summer, numbers of small shell-bearing molluscs are also eaten. The nest, placed near the water among sedge and weeds, is composed of dry leaves of aquatic plants and lined with the flowers of the reed. The eggs, from five to seven in number, are white with short wavy lines and markings of purplish-brown (see British Bird Egg Cabinet, drawer 3). Two broods are produced in a season.

REED WARBLER (*Acrocephalus streperus*).

This summer visitor arrives in England towards the end of April and remains till September. It is not uncommon by the margins of our meres and osier thickets. The nest is generally suspended on reeds, or on the branches of willows and alders, which are woven into the sides. It is compactly built of fine dry grass, lined with flowering grasses, and is sometimes situated several feet above the surface of the water. Four or five greenish-white eggs, clouded and blotched with dark olive and ash (see British Bird Egg Cabinet, drawer 2) are laid towards the end of May. The cuckoo frequently places its eggs in the nest of this species.

Cases 159-161.

CUCKOO (*Cuculus canorus*).

This well-known visitor is generally distributed during the summer months, arriving in the south of England about the first week in April, and remaining till August, or sometimes later. The food consists of insects and their larvæ, especially hairy caterpillars. No nest is built and the female Cuckoo lays her egg on the ground, conveying it in her bill to the nest of a foster parent:—Hedge Sparrow, Wagtail, Sedge Warbler, Reed Warbler, Meadow Pipit (as here shown) and others. Soon after the young cuckoo is hatched, it ejects the other nestlings. Four to six eggs are laid in a season, and the eggs laid by different individuals vary greatly in colour, sometimes resembling those of the foster-parent (see British Bird Egg Cabinet, drawer 7).

Case 159.—The male bird is being mobbed by Meadow Pipits (mobbing by smaller birds is common, probably because the Cuckoo is mistaken for a bird of prey). Both in size and colouration there is considerable resemblance between Sparrow Hawks and Cuckoos.

Case 160.—The female is seen depositing her egg in the Meadow Pipit's nest. It is suggested that the egg is laid on the ground, and carried in the beak to the nest as seen in the group, the beak being specially adapted



ONE OF THE CUCKOO GROUPS.
CASE 160.

to hold the egg firmly, and yet without risk of damaging the tender shell. On the other hand other observers state that the egg is conveyed to the nest by the claws. It is interesting to note that the egg may be a good match in colour, with those of the foster parents. This may have been brought about by natural selection, as probably each individual cuckoo always chooses the nest of the same species for all her eggs.

Case 161.—The young Cuckoo is here seen occupying the nest of (a) the Hedge Sparrow, and (b) the Wagtail. In both instances the foster-mothers are shown conveying food to the usurper.

Case 162.

SEDGE-WARBLER (*Acrocephalus phragmitis*).

Local name : Water Nanny.

A common summer visitor, generally distributed over the British Islands from the latter half of April till the end of September. It frequents meres and reedy swamps, and the nest is generally placed in a low bush or among rank herbage by the side of some stream or ditch. It is composed of moss and coarse grass, and the inside is deep and thickly lined with hair. The eggs, four to six in number, are of a pale yellowish-brown, generally suffused or sometimes slightly mottled with darker brown, and not unfrequently streaked with hair-like lines of black (see British Bird Egg Cabinet, drawer 2). They are generally laid towards the end of May and hatched in June.

Case 163.

BLACKCAP (*Sylvia atricapilla*).

A common summer immigrant, arriving about the middle of April, and departing southward in September, a few birds occasionally staying throughout the year. It frequents woods, thick hedges, orchards and gardens. Its song is frequently mistaken for the Nightingale. The nest, built of dry grasses and lined with horsehair, is usually fixed in a bush from two to five feet from the ground. The eggs, five to six in number, differ much in colour, and are usually yellowish-brown blotched with darker brown, but sometimes both ground colour and markings are of a reddish hue (see British Bird Egg Cabinet, drawer 2). The eggs are laid first about the middle of May, and two broods are reared in a season.

Case 164.LESSER WHITETHROAT (*Sylvia curruca*).

Local name: Hazel Linnet.

A common summer immigrant, arriving about the middle of April and remaining as late as the beginning of October. It frequents high and thick hedges and shrubberies, and is occasionally seen in lofty trees, but is seldom found in large woods. Its food is mainly the various stages of insects, and when these are scarce, fruit and berries. The nest is frequently found in low branches, and is compactly built of strong stalks, lined with fibrous roots and horsehair. The eggs, four to five in number, are white, blotched and speckled over, mostly at the larger end, with deep olive brown (see British Bird Egg Cabinet, drawer 2).

Case 165.GRASSHOPPER WARBLER (*Locustella naevia*).

Local name: Reeler.

A summer visitor arriving from the South about the middle of April, and departing in September. Being shy and restless in its habits, secreting itself in the thickest vegetation, a patch of furze or a hedge bottom, it is at all times difficult to obtain a glimpse of this bird. The nest, built in May, is placed on the ground well hidden among thick herbage. It is approached by one or more mouse-like runs, and along these the bird, when alarmed, creeps back to her eggs. These are from five to seven in number, pinkish-white, thickly zoned and speckled with darker reddish-brown (see British Bird Egg Cabinet, drawer 2).

Case 166.COMMON NIGHT-JAR OR GOATSUCKER (*Caprimulgus europæus*).

Local names: Night-hawk, Fern Owl, Evening Jar, Jenny Spinner.

The Night-jar is a summer visitant to the woods and mosses of our local area, and to most parts of the United Kingdom, arriving in numbers towards the end of May, and migrating again in September or somewhat later. It occurs over all Europe. The Night-jar, which flies in the twilight when it utters a peculiar "jarring" or "churring" note, feeds chiefly on insects. This bird makes no nest, laying its two eggs (see British Bird Egg Cabinet, drawer 6) on the bare ground in the beginning of June. A very characteristic habit of this species is here illustrated. When alarmed by the approach of strangers in the neighbourhood of the nest, the bird goes fluttering along as if wounded, thereby enticing the strangers, not knowing this habit, to follow. The bird always leads away from the nest.

Case 167.CHIFF-CHAFF (*Phylloscopus rufus*).

Local name: Peggy.

The Chiff-Chaff is a rather rare summer visitor to our local area, and is more numerous in some parts of Britain than in others. Its food consists of insects and grubs. The Chiff-Chaff arrives in March, and migrates about September. It nests late in May or early in June, and lays from five to seven eggs (see British Bird Egg Cabinet, drawer 2) of two distinct types of colouration. It builds a domed nest like the Willow Wren, but no moss is used for lining as in the nest of the latter. The Chiff-Chaff differs from the Willow Warbler and the Wood Warbler by its rounded wing, the second quill being of the same length as the sixth; and also by its dark feet.

Case 168.WILLOW WARBLER OR WILLOW WREN (*Phylloscopus trochilus*).

Local names: Peggy Whitethroat, White Wren, White Robin.

The Willow Warbler is one of the commonest birds of the woods and orchards of our local area, as it is of most parts of Britain. It arrives in April from its winter home in Africa, and migrates again in Autumn. The Willow Warbler feeds on insects. It builds such a nest as is here shown, usually in May, and lays from five to eight reddish-spotted eggs (see British Bird Egg Cabinet, drawer 2). The Willow Warbler is distinguished from the Wood Warbler (which it closely resembles), by its smaller size and duller colour; and also from the Chiff-Chaff by having a pointed wing (whose third and fourth quills are the longest) instead of a rounded one.

Case 169.COMMON ROBIN OR REDBREAST (*Erithacus rubecula*).

The Robin resides the year through in all parts of our local area; ranging also throughout the rest of Britain. In autumn, numbers migrate from one part of the country to another only, while others cross to the Continent, returning again in the spring to their usual haunts. The Robin builds in April and May, laying from five to eight eggs which vary considerably both in ground colour and markings (see British Bird Egg Cabinet, drawers 1 and 7). The location of the nest is very varied, and although a hole in a bank is the site generally adopted, it frequently uses disused tin cans (as here seen) as a shelter. The Cuckoo often deposits its egg in the Robin's nest. It is interesting to note that the plumage of the nestlings differs from that of the parents, which it will fully resemble only after the first autumn moult, except in the tips of the middle wing coverts, which remain buff till the following spring.

Case 170.REDSTART (*Ruticilla phoenicurus*).

Local name : Jenny Redtail.

An early spring immigrant, sparingly distributed. The Redstart frequents the skirts of forests, orchards and gardens and is partial to old walls and ruins overrun with ivy. The food consists of worms, insects, fruits and berries. The nest, loosely constructed, is formed of dry grass and fine roots, lined with hair and feathers, and is usually placed in some hole in a tree, wall or roof. The eggs, from five to seven and even eight, are pale greenish-blue (see British Bird Egg Cabinet, drawer 1). Two broods are often produced in a season, the young of the first being fledged by the second week in June.

Case 171.STONECHAT (*Pratincola rubicola*).

Local names : Stone Chack, Flick-tail.

This species is resident throughout the year, but is irregularly distributed, frequenting commons and furzy wastes. It closely resembles the Whinchat both in its nesting habits and number of eggs, the nest being placed on or near the ground in some furze bush, but it is built much earlier in the year, about the middle of April, and the eggs are somewhat greener in colour (see British Bird Egg Cabinet, drawer 1). The nest is here shown in a gorse bush.

Case 172.WHINCHAT (*Pratincola rubetra*).

A summer visitor, generally distributed over Great Britain from the middle of April to early in October. In Ireland it is limited to some of the southern counties. The food consists of insects, worms and berries. Its nest, constructed loosely of dry grass and moss, lined with hair, is made about the beginning of May, and is usually formed in some hollow in the ground well concealed by surrounding foliage. The eggs are greenish-blue faintly zoned with rust colour, and are usually six in number (see British Bird Egg Cabinet, drawer 1). Two broods are sometimes reared in a season.

Case 173.HEDGE ACCENTOR (*Accentor modularis*).

Local names : Hedge Sparrow, Hedge Dunny, Dunnock, Dykey.

A resident, generally distributed over the British Islands. It frequents woods, hedgerows, and gardens, and feeds indiscriminately on insects, worms and seeds, but not fruit. It is very nearly the first bird to build its nest, which is placed in an almost leafless hedge and

is made of roots, moss and wool, lined with hair. Four to six eggs of a light greenish-blue, without spots (see British Bird Egg Cabinet, drawer 2), are laid early in March. A second or even a third brood may be reared in a season.

Case 174.GREATER WHITETHROAT (*Sylvia cinerea*).

Local name : Peggy Whitethroat.

The Nettle-creeper, as this bird is also called, is one of our commonest summer visitors. It is generally distributed throughout the British Islands from the middle of April till the beginning of September. It frequents hedgerows and thickets overgrown with brambles and nettles. The nest, a lightly constructed structure, of fine grass, with a lining of bents and horsehair, is almost invariably placed low down in straggling brambles or nettles. The eggs are greenish-white or stone colour, blotched with violet grey and light brown (see British Bird Egg Cabinet, drawer 2).

Case 175.WHEATEAR (*Saxicola oenanthe*).

This is one of our earliest spring visitors, arriving in the beginning of March and leaving early in October. It is generally, though locally, distributed throughout the British Islands and frequents the wilder parts of the country, such as open downs, heaths and barren hills. The white patch on the rump, so conspicuous when in flight, is entirely hidden when the bird is at rest. The nest is loosely made of dry grass, lined with hair and feathers, and is variously placed in rabbit burrows, crevices of stone walls and heaps of stones. The eggs are very pale blue, sometimes faintly spotted with purple (see British Bird Egg Cabinet, drawer 1), and vary from five to seven in number. Two broods are produced in a season.

Case 176.RING-OUZEL (*Turdus torquatus*).

A spring visitor which arrives in the British Islands in April, remains till September or October when the majority move southwards, but in mild seasons individuals have been observed as late as December. It is more abundant in the fells and more elevated districts. It feeds on moorland berries, slugs, worms and insects, and often visits gardens in search of fruit. The nest is placed in heather or on ledges of rock, often on the side of a stream, and resembles that of a Blackbird. The eggs also resemble those of a Blackbird, but are usually more boldly marked, and are four and sometimes five in number (see British Bird Egg Cabinet, drawer 1). Two broods are produced in a season.

Case 177.**BLACKBIRD (*Turdus merula*).**

A resident species commonly distributed throughout the British Islands. Snails, worms and insects as well as fruit of all kinds constitute its food, and owing to its partiality for fruit, great numbers are annually destroyed in gardens and orchards. The nest, generally placed in bushes and hedgerows, is made of moss, lined with dry grass. Four to six eggs are laid, usually greenish-blue spotted with reddish-brown (see British Bird Egg Cabinet, drawer 1). Several broods are reared in a season.

Case 178.**MISTLE-THRUSH (*Turdus viscivorus*).**

A resident species known as the "Stormcock" from its habit of singing during the roughest weather, and found generally throughout the British Islands. It feeds on fruits, worms, snails and insects, and is especially partial to the berries of the yew, holly, mistletoe, etc., from the last of which the trivial name is derived. The untidily-finished nest is generally placed in the fork of a tree some distance from the ground. Four to five eggs are laid, sometimes as early as February, of which the ground colour is greenish or tawny white, blotched with reddish-brown and lilac (see British Bird Egg Cabinet, drawer 1). Two broods are often reared in a season.

Case 179.**SONG-THRUSH (*Turdus musicus*).**

The "Throstle" or "Mavis" is a common resident throughout the British Islands. The food consists of fruit, snails, worms and insects. The familiar nest, lined with mud, is generally placed in a thick bush, and the first clutch of eggs, from four to six in number, is laid early in March. They are greenish-blue, usually blotched with black or purplish-brown, but are sometimes unspotted (see British Bird Egg Cabinet, drawer 1). Two or three broods are reared in a season.

Case 180.**BARN OWL (*Strix flammea*).**

Local names: Howlet, White Owl.

Probably the best known of all the British Owls, and resident throughout the year. It inhabits churches, barns, deserted ruins and hollow trees, and the same haunts are frequented by the same pair or their offspring for many years in succession. They feed on



THE BARN OWL GROUP.
CASE 180.

rats, mice, shrews and small birds, and less commonly on insects, parts of all of which have been recognised at different times on examination of the pellets rejected through the mouth, which are generally to be found in abundance near any place of their resort. The Barn Owls undoubtedly render good service to the agriculturist by the destruction of vermin. Two to six eggs are commonly laid, of a dull white in colouring (see British Bird Egg Cabinet, drawer 7).

Case 181.

TAWNY OWL (*Syrnium aluco*).

Local name: Wood-owl.

This species, also known as the Brown Owl, is fairly common throughout Great Britain, wherever woods and crags suitable to its habits are found. It does not appear to occur in Ireland. It is more nocturnal than any other British Owl, and feeds chiefly on rats, mice, moles, and sometimes on small birds, insects, or surface-swimming fishes. The nesting sites vary much, the most usual being a hollow in the trunk of a tree, but old nests of Rooks, Crows and other birds are frequently used, while ruins, barns and disused chimneys are sometimes resorted to, and not infrequently the bare ground, under shelter of fir branches or roots. Three or four eggs, smooth, white and nearly round in shape (see British Bird Egg Cabinet, drawer 7), are laid sometimes as early as the end of February.

Case 182.

LONG-EARED OWL (*Asio otus*).

A resident species, generally distributed throughout the wooded districts of Great Britain and Ireland, and especially partial to fir plantations. In Lancashire, it is more sparsely found than other British Owls, but is plentiful in some parts of the county. Witton Park, Blackburn, is recorded as a nesting site (Zoologist, 1904, p. 259). Nocturnal in habit, it feeds principally on small rats, mice and birds, and occasionally beetles and other insects. The eggs, white, and from four to six in number (see British Bird Egg Cabinet, drawer 7), are usually laid very early in the year in an old squirrel's drey, or in the deserted nest of some large bird (as here shown), but occasionally they are laid on the ground, at the foot of a hollow tree.

Case 183.

SPARROW-HAWK (*Accipiter nisus*).

The Sparrow-Hawk is a common resident in wooded districts of our local area as of the British Isles generally, and everywhere across central Europe and Asia. It feeds on small birds (catching them

unexpectedly in trees and hedges, and pursuing them even into woods), game nestlings, mice and rats. In May the Sparrow-hawk either builds a nest for itself, or appropriates a disused one, in a fairly high tree, in which it lays from three to four, or sometimes five, very variably marked eggs, usually pale bluish-white blotched with reddish-brown (see British Bird Egg Cabinet, drawer 9). The male is always much smaller than the female.

Case 184.

MERLIN (*Falco aesalon*).

Local name: Stone Falcon.

The Merlin is a resident, but by no means common, in our local area, and as a breeding bird is more abundant in northern England and Scotland than in England or Ireland. It occurs over all the mountain districts of northern Europe and Asia. It feeds chiefly on small birds such as larks, dunlins, etc., and often large moths, which it "flies down" in the manner of the larger falcons. The Merlin nests usually in a hollow scratched in the ground, sometimes on a rocky ledge and very rarely in a tree, laying in May from four to six eggs (see British Bird Egg Cabinet, drawer 8). The young of the Merlin and Sparrow-hawk are very similar in appearance, but may be identified by the colour of the eyes, the iris of the Merlin being dark brown, while that of the Sparrow-hawk is yellow.

Case 185.

COMMON KESTREL (*Falco tinnunculus*).

Local name: Windhover.

This hawk is common throughout our local area, as in all parts of the British Isles and Northern Europe. Its food consists largely of field mice, other small mammals, frogs and insects, and very occasionally of small birds and chickens. It is a most useful bird to the farmer and gardener. The Kestrel early in April lays its rather variable eggs (see British Bird Egg Cabinet, drawer 8), three to seven in number, in a disused nest of a crow, pigeon, etc., in wooded districts, and also on the bare rock on shore cliffs.

Case 186.

PEREGRINE FALCON (*Falco peregrinus*).

The Peregrine Falcon is rather a rare resident among the high rocky fells of our local area. It frequents all the sea cliffs and uplands of England and Wales, and especially of Scotland and Ireland, and throughout the northern and temperate parts of Europe and Asia. It has long been esteemed the best bird for the purposes of falconry.

It feeds on all game, marine and other birds, often of large size; and also on hares and rabbits. It has been observed, through telescope, hunting ducks on the Dee. The Peregrine Falcon nests in April, in the same place year after year, in rock hollows on high inaccessible cliffs, laying from two to four very variable eggs (see British Bird Egg Cabinet, drawer 8). It is interesting to note that the helpless young are not protectively coloured by resembling their surroundings, like the young of so many other birds, but are conspicuously white. It is suggested that as the parents (of whom one is always in attendance on the nest) are so formidably armed with beak and claw, the necessity for colour protection has disappeared, and that the conspicuous whiteness serves as a signal to other birds and animals of the risks they run in attempting to prey upon them. There are many examples of such warning colouration in the animal kingdom.

Case 187.

COMMON BUZZARD (*Buteo vulgaris*).

A much persecuted resident, nesting now only in our lake districts or where it receives least molestation from game-keepers. The food consists chiefly of young rabbits and hares, but reptiles and insects are also eaten. The large nest, of sticks and dead heather, is built in a tree or placed on the ledge of a cliff. Three or four greyish-white eggs, blotched with reddish brown and lilac (see British Bird Egg Cabinet, drawer 9) are usually laid in April. Both birds participate in the incubation of the eggs.

(The birds in the group are in an immature stage of plumage.)

Case 188.

WHITE-TAILED OR SEA EAGLE (*Haliaeetus albicilla*).

This species is principally observed in England as a migrant in autumn and winter, though it formerly bred on many parts of the coast in the Lake District and it still breeds in the western islands and North-west of Scotland. The immature specimen (wing extended) in the group, was killed at Blundellsands in the winter of 1895. The food consists of the smaller game, i.e., hares, young deer and ducks, and it also feeds largely on carrion. The nest is a huge structure of sticks, added to year by year until it attains an immense size. The site of the nest varies, usually on ledges of cliffs, often on a rock in the middle of a lake, sometimes in trees and rarely on the ground. The two eggs are white or whitish-brown when nest stained (see British Bird Egg Cabinet, drawer 9). They are smaller than the eggs of the Golden Eagle and somewhat rounder in form.

OSPREY OR FISH HAWK (*Pandion haliaëtus*).

Though formerly said to breed on the north coast of England and in the Lake District, the eyries of the species are confined to a few places in Scotland. In autumn a considerable number occur in various parts, especially estuaries of large rivers and inland lakes. The food consists entirely of fish, and the spiky soles and powerful talons of the feet enable it to hold the fish securely. The favourite breeding haunt is a forest, with water in the vicinity where fish abound. The large nest is placed in a tree or on some ruin near an inland lake. The eggs are very finely marked, ground colour white sometimes entirely hidden by red or purple blotches which congregate at the larger end of the egg (see British Bird Egg Cabinet, drawer 9).

Case 189.

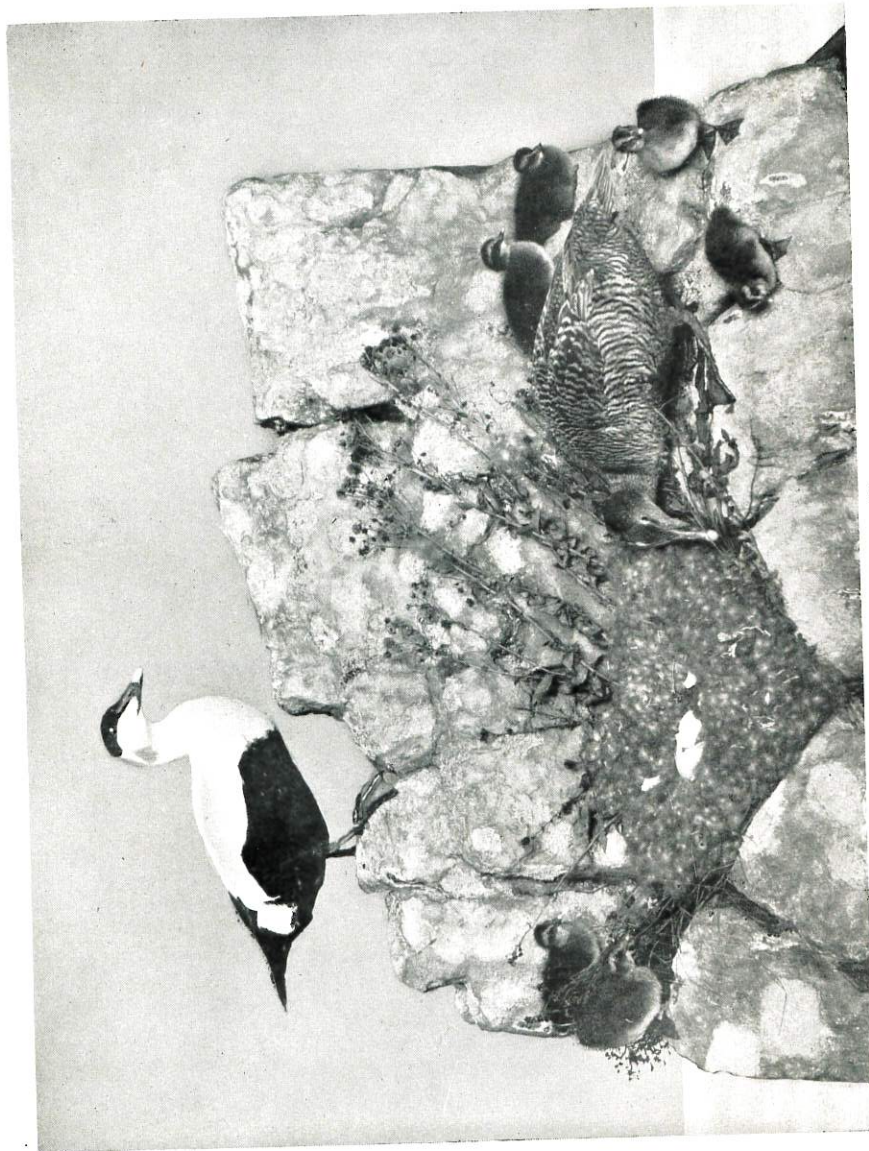
GOLDEN EAGLE (*Aquila chrysaetus*).

The proprietors of deer-forests now afford protection to this grand bird of prey, with the result that they have increased greatly during recent years. Its breeding places are confined to the Highlands of Scotland, the Hebrides and the north and west of Ireland, but in exceptionally severe winters it sometimes visits the south of Scotland and very rarely, England. One was recorded near Furness Abbey in 1815 (Dunsford, "Birds of Walney"). It preys upon mountain hares, lambs and even young red deer, also grouse and ptarmigan. The nest, built of sticks and dead heather, lined with coarse grass and bits of scotch fir, is usually placed on some inaccessible ledge on a cliff and occasionally in a tree. The greyish-white eggs, blotched more or less with reddish-brown and lilac (see British Bird Egg Cabinet, drawer 9), are laid early in April, and the young are on the wing early in August.

Case 190.

GANNET OR SOLAN GOOSE (*Sula bassana*).

This species is found throughout British waters during the autumn and winter months, when it may frequently be seen in Liverpool Bay. In spring it repairs in countless numbers to some isolated rock to breed. The most noted breeding colonies are Lundy Island, Grassholme, off Pembrokeshire, Ailsa Crag, off the Butt of Lewis, Boreray (St. Kilda), the Bass Rock, the Bull Rock, off Co. Cork, and the Little Skellig. Fish, which are caught by plunging, often from a great height, form its food. Only one egg, of a pale blue overlaid with a chalky white coating (see British Bird Egg Cabinet, drawer 10), is laid in a nest made of seaweed and grass. The young, naked when hatched, soon become



THE EIDER DUCK GROUP.
CASE 193.

covered with white down, replaced in a few weeks with dark feathers tipped with white. There are four distinct changes of plumage, the mature plumage not being assumed until the fifth year.

Case 191.

SHAG OR GREEN CORMORANT (*Phalacrocorax graculus*).

This species is also known as the Crested Cormorant, from the curved tuft-like crest, which is assumed in the early spring and shed in May. Though essentially marine and common along all the rugged coasts of the British Islands, it is not so common locally owing to the lack of nesting sites. It is an expert diver and feeds principally on sea fishes. The nest, generally placed on a ledge of rock, is made of seaweed and other badly-smelling materials plastered together. From three to five eggs, with a pale blue undershell thickly encrusted with chalky white (see British Bird Egg Cabinet, drawer 10), are laid early in May. The manner in which the young are fed is remarkable. The parent bird, with its gullet filled with fish, bends over the young, opening its bill to the fullest extent, upon which the young bird thrusts its head and neck down the old bird's throat and extracts the partially-digested food.

Case 192.

GREY LAG-GOOSE (*Anser cinereus*).

The only species of wild goose nesting in the British Islands. Locally, it is seen in flocks during the spring and autumn migration resting on the sand-banks off the mouths of the Mersey and Dee. In Morecambe Bay and the Ribble Estuary, where other waders have ceased to find suitable rendezvous in the reclaimed land, geese of several species annually muster to the number of many thousands (Mitchell, "Birds of Lancashire"). A pair of this species nested on the Formby Sands in 1904, but their eggs being taken the birds left. The nest of reeds, dry heather, etc., is generally placed among coarse grass, rushes or heather. Four to seven yellowish white eggs (see British Bird Egg Cabinet, drawer 12) are laid, surrounded by down, from the breast of the female. The males take no part in the incubation.

Case 193.

EIDER DUCK (*Somateria mollissima*).

This species is only known as a winter visitor on the southern and western coasts of England and Wales, but it breeds in suitable localities

along the coasts of Scotland and on the Faroe Islands, off Northumberland. It is a great diver, the food consisting of shell-fish and crustaceans. Five to eight eggs of green colour (see British Bird Egg Cabinet, drawer 16) are laid in a nest made of the stems of plants, grass and seaweed, usually situated among coarse herbage on low islands. During incubation, a lining of down, plucked from the breast of the female, is gradually added. The males take no part in incubation, and the ducks are left by the drakes directly they begin to sit. The group exhibits the provision usually made for securing the nest by having it lodged in the middle of a rooted coarse plant, so that though built of light material in an exposed situation, it is held securely.

Case 194.

TEAL (*Nettion crecca*).

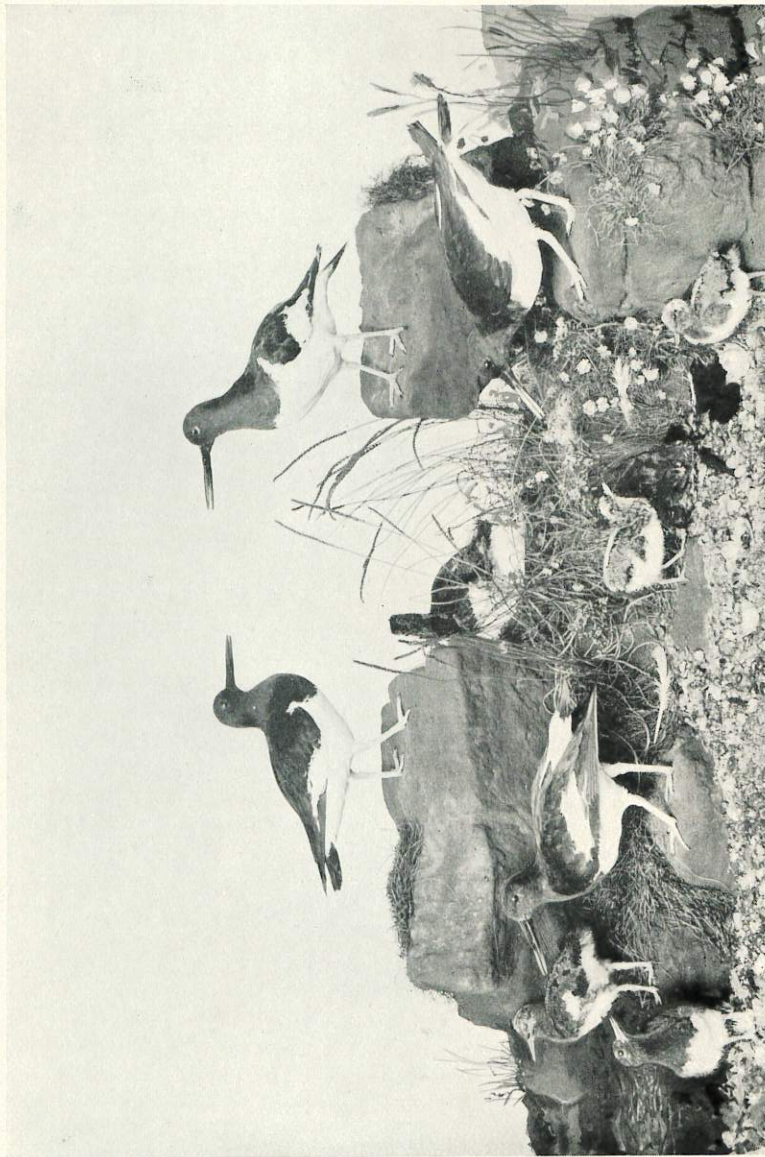
This species, which is the smallest of our British ducks, is more abundant during the winter months than in summer, but it breeds in almost every county in Great Britain and Ireland. In Lancashire all suitable heath-lands serve as breeding sites. At the duck decoy at Hale, an average of about 460 Teal are annually captured. It frequents fresh water, and feeds on the seeds of aquatic plants, grain, worms, slugs and insects, and the flesh is much esteemed as food. The nest, placed in tufts of coarse grass or heather on the borders of lakes or morasses, is composed of dry grass and leaves, lined with blackish down. Eight to fourteen creamy white or pale buff eggs (see British Bird Egg Cabinet, drawer 13) are laid early in May.

Case 195.

MALLARD or WILD DUCK (*Anas boschas*).

Local name: Mere Duck.

This species was formerly more numerous in the British Islands than at present. A certain number still remain to breed, but they are comparatively few in proportion to the number of winter visitors. Several hundred are taken every year in the large decoy at Hale. The food consists mainly of grain or seeds, worms, slugs and insects. The Mallard is an early breeder, and the nest, composed of grass, lined with down, is usually placed on the ground, near the margin of rivers or lakes, but often at a considerable distance from water. The eggs are a dull greenish grey colour (see British Bird Egg Cabinet, drawer 11), and the male does not participate in the incubation. The Mallard is the undoubted origin of the many varieties of our domestic ducks.



THE OYSTER-CATCHER GROUP.
CASE 198.

Case 196.

SHELD-DUCK (*Tadorna cornuta*).

Local name : Barrow Duck.

A resident species not uncommon on suitable parts of the coast of Great Britain and Ireland. Low sand-hills and mud flats are its favourite haunts, where small molluscs, crustaceans, marine insects and other kinds of food are plentiful. In Lancashire, Formby sand-hills, the warrens near the Ribble and Walney Island are some of the nesting sites. Although the plumage is very similar in both sexes, the colours of the male are brighter and more defined. The nest is generally placed inside a rabbit burrow some feet from the entrance, and is made of bents with a thick lining of down from the breast of the female. Seven to twelve cream-coloured eggs (see British Bird Egg Cabinet, drawer 11) are laid in May, and although the drake takes no part in incubation, he remains in the vicinity of the nest.

Case 197.

RED-BREASTED MERGANSER (*Mergus serrator*).

A winter visitor in considerable numbers to the larger estuaries in England and Wales, but in Scotland and Ireland it is resident and breeds more or less plentifully on the fresh-water lochs and on many parts of the coast. It is an expert diver, and feeds chiefly on trout, young salmon and other small fishes. The nest usually consists of a hollow in the ground thickly lined with down, but it is sometimes placed in an old burrow. It is usually well concealed among heather or long grass. The eggs, rarely more than ten in number, are laid towards the end of May, and are of a greenish-buff colour (see British Bird Egg Cabinet, drawer 14). The female undertakes the entire duties of incubation.

Case 198.

OYSTER-CATCHER (*Hæmatopus ostralegus*).

A common resident, frequenting the shores of the British Islands, but more numerous during the colder months of the year, when its numbers are increased by migrants from the continent. Its food consists mainly of mussels, whelks and limpets, which are extracted from their shells by the bird's powerful bill. No nest is made, but a slight hollow is usually scraped in the sand or shingle, on the sea-shore above high-water mark, or on the stony beds of rivers. The eggs, generally three in number, are pale brownish-buff, spotted and streaked with dark brown and ash-grey (see British Bird Egg Cabinet, drawer 20).

Case 199.COMMON SANDPIPER (*Totanus hypoleucus*).

Local names : Summer or Sand-Lark, Willie Liltie.

A regular visitor, arriving in April and departing in September. It is common in Ireland, Scotland and Wales, and in the northern and western portions of England, but less plentiful in the southern and eastern counties. In Lancashire it breeds on the fells and uplands. The nest, made of dry grass and leaves, is placed in a hollow on the ground, usually near fresh water. The four eggs are of a creamy buff colour, finely spotted with grey and with two shades of brown (see British Bird Egg Cabinet, drawer 21).

REDSHANK (*Totanus calidris*).

An autumn and winter visitant, occasionally seen in large flocks, but a few always resident throughout the year. It breeds in marshy districts and pastures, nesting in a hollow in the ground among rushes, heather or long grass. The birds betray great anxiety when the nest is approached, and endeavour to lead the intruder away by flying round and uttering their shrill and plaintive note. The eggs which are usually well concealed, are four in number, and are of a greenish-buff colour, blotched and spotted with purplish-brown (see British Bird Egg Cabinet, drawer 21). The nesting localities in Lancashire are few in number, Carnforth and Martin Marshes, Winster Valley and Walney Island among others.

Case 200.COMMON HERON (*Ardea cinerea*).

Local names : Longricks, Jammy.

This species is generally distributed throughout the British Islands. The food consists of fish, frogs, reptiles, mice and voles as well as worms, molluscs and insects. Although the Heron often leads a solitary existence on the coasts and inland waters, during the breeding season numbers congregate together and form what are known as heronries. The most important heronries in this district are at Ince Blundell, near Waterloo, Scarisbrick, near Southport, and there are several flourishing colonies in Cheshire. The nests are generally placed on the tops of high trees; they are large flat structures formed of sticks and lined with roots, etc. The eggs, three to five in number, are bluish green in colour (see British Bird Egg Cabinet, drawer 10), and are laid in March or in mild seasons much earlier. Both parents assist in tending on the young.

Case 201.LAPWING OR PEEWIT (*Vanellus vulgaris*).

Local names : Peewit, Green Plover.

A common resident throughout the British Islands, but having its numbers greatly augmented in winter by large flocks from the continent. It frequents bare fallow and moorland, where worms, insects and slugs are abundant. The nest is merely a depression in the soil, scratched out by the birds, and lined with a little dry grass. The eggs, usually four in number, are very variable in colour, but commonly brownish-buff, blotched and spotted with blackish-brown (see British Bird Egg Cabinet, drawer 20). The eggs are collected for the table. In the group notice how the colouration of the young Peewits blends with the surrounding foliage in which they are sheltering, rendering them most inconspicuous, and without doubt affording protection to them.

DUNLIN (*Tringa alpina*).

Local names : Sea-lark, Sea-snipe, Oxeye.

This species is common on the shores and tidal rivers of the British Islands, throughout the year, and may be met with in large flocks feeding on the mud flats and sandbanks uncovered by the tide, during the winter months. In summer most of the adult birds move inland to the moorlands to breed. The nest consists of a slightly lined depression in the turf, situated among short heather or coarse grass. The eggs, four in number, are usually of a pale green colour, blotched and spotted with grey and reddish-brown (see British Bird Egg Cabinet, drawer 21).

GOLDEN PLOVER (*Charadrius plumbealis*).

Although many are resident, the species is most plentiful during the periods of migration and in winter, when vast flocks frequent the pastures and coasts in search of food—insects, worms, molluscs, etc. The birds retire to the moors to breed, about March. The nest is merely a slight hollow in the ground, usually among heather or short grass. The four eggs are yellowish-buff, handsomely blotched and spotted with purplish-brown and brownish-black (see British Bird Egg Cabinet, drawer 20). It is interesting to note that after the autumn moult the black underparts are replaced by white.

SNIPE (*Gallinago caelestis*).

Common throughout the British Islands especially in Scotland and Ireland, frequenting marshy districts. It is more numerous during the colder months of the year, when numerous flights arrive from the

continent and remain until March. Insects, worms and molluscs form its food, and in frosty weather it is frequently forced to shift its quarters in search of open ground where food may be obtained. The nest merely consists of a lining of dead grass in some hollow in the ground, situated among rushes, grass or heather. The four eggs are generally greenish-buff, spotted and blotched, especially at the larger end, with light and dark brown and grey (see British Bird Egg Cabinet, drawer 20).

Case 202.

COMMON TERN (*Sterna fluviatilis*).

Local name : Sea Swallow.

This summer visitor reaches our coasts towards the end of April, and returns to the South between August and October. They are somewhat gregarious in habit, and numerous breeding stations are scattered along the coasts of the British Islands as well as on inland lochs. The food is mainly small fish, shrimps and other crustacea, and like the Arctic Tern it plunges into the sea after its prey. Two or three eggs are laid, and they vary greatly in colour and markings (see British Bird Egg Cabinet, drawer 22). They are deposited above high water mark among the shingle, and their colouration as well as that of the newly hatched young, closely resembles the tones of the surrounding water worn pebbles. This example of protective colouration is well illustrated in the group.

ARCTIC TERN (*Sterna macrura*).

This summer visitor reaches the British Islands at the end of April, and departs southwards in the autumn, the migrations lasting from August to October. Large colonies breed round the coasts of Great Britain and Ireland, but in the north of Scotland it is most numerously represented. In food and habits it resembles the Common Tern. Two to three eggs are laid and vary greatly in colour markings (see British Bird Egg Cabinet, drawer 22). They are laid in depressions in the sand or shingle.

LITTLE TERN (*Sterna minuta*).

This, the smallest of our terns, arrives early in May, and leaves in September or early in October. Its food is similar to the Common Tern. The breeding stations on the flat sandy or shingly shores are scattered along the coasts of the British Islands. Two or three stone-coloured eggs are laid towards the end of May in hollows in the sand or shingle (see British Bird Egg Cabinet, drawer 22). In the group



THE TERN AND RINGED PLOVER GROUP.
CASE 202.

three recently hatched chicks are shown near the log of wood, and the colour of down harmonizes so well with the colour surroundings that they are not seen without careful looking.

RINGED PLOVER (*Ægialitis hiaticola*).

There appear to be two races of Ringed Plover. The larger race, sometimes called the Ringed Dotterel, is more or less resident and inhabits the flat sandy portions of our coast. The smaller race visits our shores for a brief period in spring. The four eggs are laid in a hollow in the ground often lined with fragments of shell. They are pale buff or stone-colour spotted with black or grey (see British Bird Egg Cabinet, drawer 20). Two broods are usually reared in a season. Here again the eggs and young so closely resemble their surroundings that they are difficult to find.

Case 203.

BLACK-HEADED GULL (*Larus ridibundus*).

Local names : Chir-maw, Cockle Maw, Laughing Gull.

A common resident, abundant on our inland waters in great and increasing numbers. This Gull is a useful friend to the farmer, feeding on grubs and other injurious insects. In spring it resorts to the breeding places, where it congregates in large numbers. The "galleries" as they are called, are found in marshy localities or on inland lakes, and are resorted to year after year. The nest, made of sedge, flags, etc., is placed on the ground or on clumps of rushes. The eggs, three or four in number, varying greatly in colour markings (see British Bird Egg Cabinet, drawer 22), are laid towards the end of April, and in many places are collected for the market.

Case 204.

LESSER BLACK-BACKED GULL (*Larus fuscus*).

A resident, common on all the coasts of the British Islands during the greater part of the year, but somewhat local in its distribution during the breeding season, when large numbers congregate on moors, turf-clad slopes, or flat-topped islands. Being almost omnivorous, and especially partial to the eggs and young of game-birds and water-fowl, it is constantly destroyed by gamekeepers. The nest is made of grass, dry seaweed, etc., and three eggs are laid early in May, and vary greatly in colour and markings (see British Bird Egg Cabinet, drawer 23). In Lancashire, the nesting places are confined to small colonies, "on the low grounds near the estuary of the Kent" (Mitchell, "Birds of Lancashire," p. 250); also on Walney Island and Foulshaw Moss, near Morecambe Bay.

Case 205.KITTIWAKE (*Rissa tridactyla*).

The "Kittiwake" a trivial name derived from its note, is generally distributed along the coasts of the British Islands throughout the winter months, but in summer it resorts in vast numbers to rugged cliffs for the purpose of nesting. Large breeding colonies are to be found on the Faroe Islands, Flamborough Head, the Scilly Islands, Lundy Island, and around the coast and islands wherever cliffs may be met with. The nest, usually formed of seaweed and lined with grass, is placed on a ledge of rock, and contains two or three pale-buff eggs, spotted with reddish-brown and ash-grey (see British Bird Egg Cabinet, drawer 23).

Case 206.COMMON GULL (*Larus canus*).

Generally distributed along the coasts of the British Islands and frequently seen inland during the colder months of the year, but in April the majority move northwards. It is not known to nest in England or Wales, but in north Britain and parts of Ireland large colonies are numerous. Open woods, islands in lakes, and the less precipitous coasts are the favourite breeding places. When at sea the food is mainly fish, but when inland the birds may be frequently seen following the plough in search of worms and grubs. The somewhat large nest is made of any convenient material such as grass, heather or seaweed. The eggs, three in number, are laid early in May, and vary greatly in colour, but are generally olive brown, spotted with dark brown (see British Bird Egg Cabinet, drawer 22).

Case 207.HERRING GULL (*Larus argentatus*).

Local name: Silver Gull.

A resident, abundant on the coasts at all seasons, and breeding wherever precipitous rocks or isolated "stacks" afford a suitable refuge. Many pairs also nest among the sandhills on the north-east coast of Scotland, and some colonies may be found on the islets in lochs. This species generally nests in company with others of its kind, and often among colonies of the Lesser Black-backed and Common Gulls. Like other large Gulls it is a great robber of eggs and young birds. The nest is formed of grass, and the eggs, three in number, are of a stone colour, or light olive brown, blotched and spotted with dark umber (see British Bird Egg Cabinet, drawer 22). In Lancashire the nesting places are few in number, mainly at Foulshaw

Moss, near Morecambe Bay. Examples of the various changes of plumage of this Gull, from the chick to the adult plumage of a five year old Gull, may be seen in Case No. 229.

Case 208.

GREAT BLACK-BACKED GULL (*Larus marinus*).

Local name : Devoke water maw.

The largest of our resident species, frequently seen on the Mersey during the winter, and numerous a few miles off the shore all the year round. It breeds in small numbers on the south and west coasts of England and in Wales, but is common in many parts of Scotland and Ireland. It feeds largely on animal food, attacking sickly sheep and lambs, devouring the young and eggs of game-birds and water-fowl, as well as carrion. The roughly constructed nest, made of seaweed, dry grass, etc., is usually situated on isolated stacks or on an islet in some secluded mountain loch. In Lancashire it nests on Piling Moss and on the fells near Rusland, not far from Morecambe Bay. The eggs, two or three in number, are brownish-buff, blotched with umber and dark-grey (see British Bird Egg Cabinet, drawer 23).

Case 209.

PUFFIN (*Fratercula arctica*).

Local names : Coulterneb, Sea-Parrot.

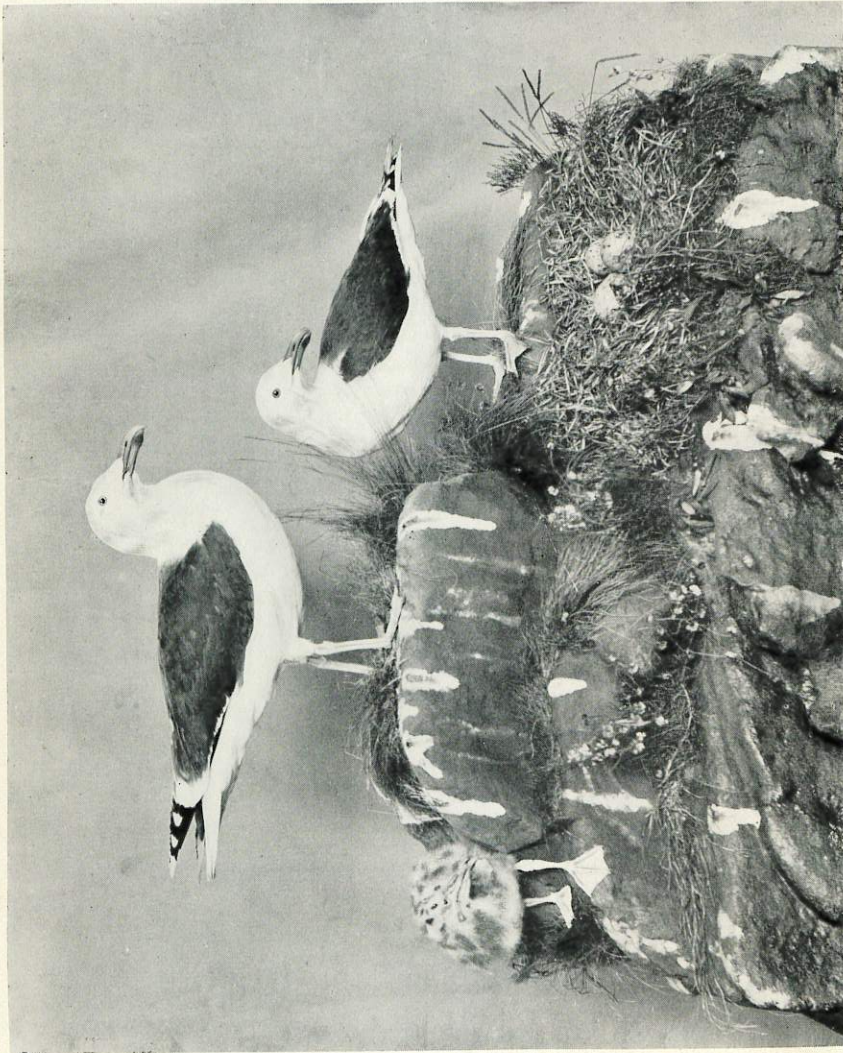
Large numbers of this species breed in the cliffs and grassy slopes on many parts of the coast-line of the British Islands. Towards the end of August, when the young are ready to follow their parents into the water, they leave the coast for the open sea, where they pass the winter, returning to their breeding places in March or April. The single dull-white egg, faintly spotted with brown or lilac (see British Bird Egg Cabinet, drawer 25), is laid in a crevice of a rock, or in a rabbit burrow or a hole made by the bird. The young are fed on small fishes, which are carried transversely in the bill of the parent, six or eight being brought at a time.

Case 210.

BLACK GUILLEMOT (*Uria grylle*).

The Black Guillemot closely resembles the Common Guillemot in habits. It is a bird of the sea, diving and swimming under water with great rapidity, and it only visits the rocks for breeding purposes. Its food is principally composed of the fry of fish, especially the Coal Fish and Herring. It breeds on the west of Scotland, the Hebrides, the Orkneys and Shetlands, and a few pairs may be seen in the Isle of Man. No nests are made, the eggs being generally placed in the crevice of a rock. They are two in number and are coloured white or

THE GREAT BLACK-BACKED GULL GROUP.
CASE 208.



greenish-white, with black spots generally distributed, and with very distinct underlying spots and blotches of purplish-grey (see British Bird Egg Cabinet, drawer 25).

Case 211.

RAZOR-BILL (*Alca torda*).

The Razor-bill closely resembles the Guillemots in its habits, and is generally distributed along rocky coasts from Cornwall to the Shetlands. It is most at home in the water where it vies with the fish, on which it feeds, in activity and rapidity of movement. In summer it comes to the rocky headlands and wild precipitous coasts to rear its young. One egg only is laid, differing in shape from that of the Guillemot and not having the same range of variation in colour (see British Bird Egg Cabinet, drawer 25), and they are usually placed in more sheltered positions, such as corners or hollows among rocks or projecting boulders.

Case 212.

COMMON GUILLEMOT (*Uria troile*).

The Guillemot is found throughout the year frequenting the open seas surrounding the British Islands. It is an expert diver, and the wings are used for propulsion under the water, in search of fish on which it feeds. In March vast numbers make for land and assemble in immense colonies for breeding purposes. Island cliffs or precipices form their accustomed nesting places, and a single pear shaped egg, varying greatly in colour and markings (see British Bird Egg Cabinet, drawers 25 and 26), is laid in May or June on an open ledge of rock. The female usually sits facing the cliff, and the egg is held between her legs with the point outwards.

Case 213.

COOT (*Fulica atra*).

Local name: Lake-Hen.

A resident species, found in suitable situations throughout the British Islands. Locally, it may be seen frequenting and nesting on our various lakes and in all reedy tarns and pools. In severe weather it migrates to the sea-coast. The food consists of aquatic insects, worms, molluscs and vegetable substances. The nest, made of dry reeds and sedges, forms a deep compact mass, and is generally placed above shallow water, among tall rushes. The eggs are buff-colour with small spots of blackish-brown (see British Bird Egg Cabinet, drawer 19), and are usually seven to ten in number. The nest seen in the group was collected from Knowsley Park.

Case 213a.

This duplicate case of the Coot is shown because of its historical interest. It is the first case of its kind mounted so as to show the characteristic habitat of the species. It was prepared in 1865, and was exhibited at the British Association Meeting, held in Birmingham the same year.

Case 214.

MOOR-HEN (*Gallinula chloropus*).

A common resident throughout the British Islands, found wherever the reedy margins of lakes, ponds, or running water afford suitable shelter. It is a good swimmer and feeds on slugs, worms and insects, and has been known to kill and devour the young of other water fowl. The nest is usually situated just above shallow water among reeds or other aquatic plants, but it is occasionally placed a considerable height over the water in the branches of some overhanging trees. It is a compactly built structure, made of dry flags and sedges. The eggs, from seven to nine in number, are pale-buff, spotted with reddish-brown and dull lilac (see British Bird Egg Cabinet, drawer 19).

Case 215.

GREAT CRESTED GREBE (*Podiceps cristatus*).

This species is more or less resident in England and Wales. In winter it is to be found on many parts of the British Coasts. It feeds on fish and crustaceans and sometimes on tadpoles and frogs. The nests may be found on the more extensive and reedy sheets of water, and are usually floating masses of wet aquatic plants. Four or five white eggs are laid, but they soon become stained to a yellow-brown from contact with the wet decomposing vegetable matter (see British Bird Egg Cabinet, drawer 24). The Great Crested Grebe has an instructive habit of covering her eggs with shavings made from the surrounding bulrushes, when she leaves the nest. These shavings are prepared by the bird while sitting on the eggs, and in the group the heap of shavings and the stumps from which they have been taken are shown. The nest was collected from the lake at Knowsley Hall. The nuptial adornments—the crest and tippet—disappear at the autumn moult, and the top of the head and back of the neck become brown, and the throat and fore-neck silvery white.

LITTLE GREBE or DABCHICK (*Podiceps fluvialis*).

A common resident throughout the British Isles. It may be found frequenting all reedy streams and lakes. Its food consists

mainly of fish, insects and vegetable matter. The rather large nest is made of reeds and decaying weeds, interwoven with and anchored by some aquatic plant or shrub. Four to six creamy-white eggs are laid, which soon become stained by contact with the damp vegetable matter of the nest (see British Bird Egg Cabinet, drawer 24). The Little Grebe has a habit of covering her eggs when leaving the nest with water weeds and rushes, so adding continuously to the bulk of the nest. In winter the chestnut colouring of the side of the neck and head is replaced by uniform white, and the crown is brown and the under parts of the body much paler.

WATER-RAIL (*Rallus aquaticus*).

This species may be regarded as a resident, for though some of our native birds move southwards in autumn, their place is taken by others from the Continent. It frequents marshy districts and its principal food consists of worms, molluscs and aquatic plants. The nest is well concealed among rushes or coarse herbage, and the material of which it is made, flat leaves of reeds and sedges, harmonises well with its surroundings. Seven to eleven eggs are laid, and they are pale creamy-white, spotted with reddish-brown and ash-grey (see British Bird Egg Cabinet, drawer 19). The young when first hatched, are covered with black down, and two broods are reared in a season.

Case 216.

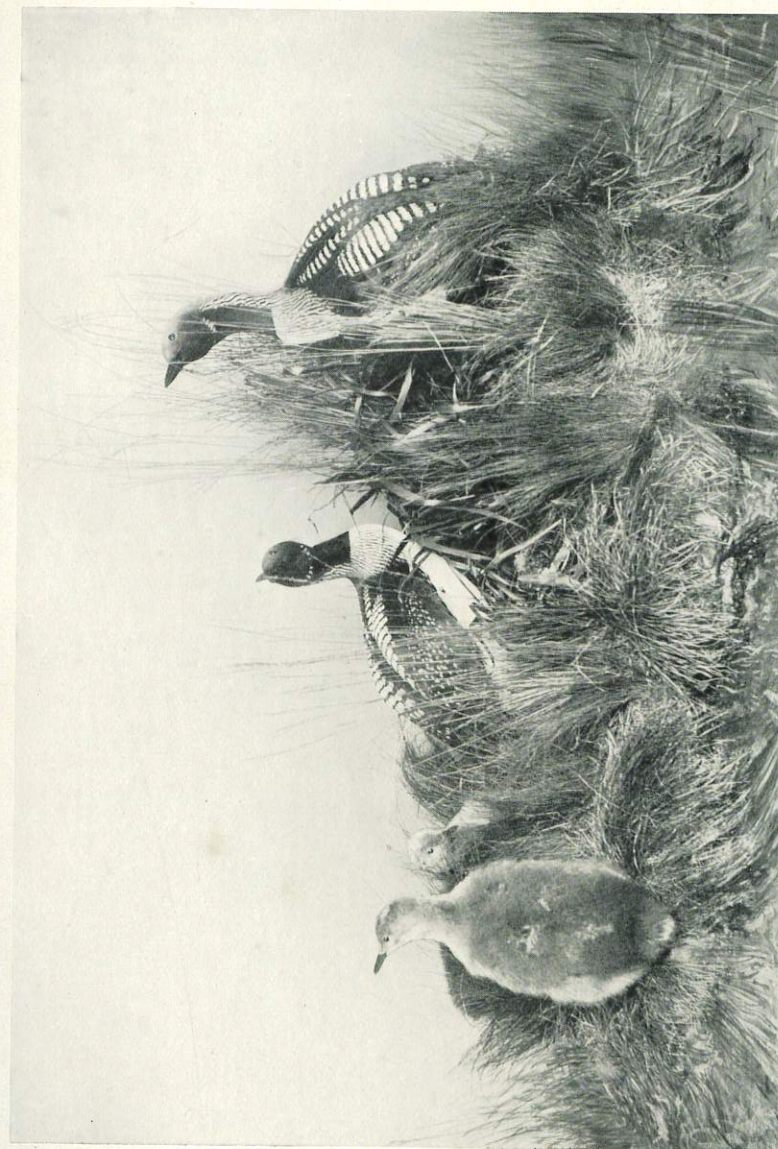
RED-THROATED DIVER (*Colymbus septentrionalis*).

Adult birds of this species with the white throat characteristic of the winter plumage, are commonly met with in the winter on all our coasts. The only places in which it is known to breed in the British Islands are the north of Ireland and in parts of Scotland. The female is rather smaller than the male, but in plumage is almost similar. This species prefers small lochs and pools for nesting, and is seldom seen on the larger lochs except in search of fish on which it mainly feeds. The large olive-brown eggs, spotted with dark brown (see British Bird Egg Cabinet, drawer 24) are laid on the bare and often wet ground, close to the water's edge. The male shares the duties of incubation.

Case 217.

BLACK-THROATED DIVER (*Colymbus arcticus*).

An annual winter visitor in small numbers to this district, but tolerably common during the breeding season about the larger lochs of the north and west of Scotland. In winter the plumage is entirely



THE BLACK-THROATED DIVER GROUP.
CASE 217.

different from that of spring, for after the autumn moult, the upper parts become ashy-brown and the under parts white. The flight is very strong and rapid, and the movements both on and below the surface of the water are active and varied, though slow and awkward on land. Fish, which mainly form its food, are captured by diving, and subsequently brought to the surface and swallowed. The nest, generally situated close to the water's edge, consists of merely a hollow in the ground, with little or no lining, either on some grass grown island, or on the mainland. Two olive-brown eggs, spotted with black (see British Bird Egg Cabinet, drawer 24) are laid in May.

Case 218.

TURTLE DOVE (*Turtur communis*).

A summer visitor generally arriving about the beginning of May and departing in September. Its numbers seem to be yearly increasing and it is now found in many localities in which it was formerly entirely absent. Although a few years ago it was hardly known in Cheshire, it is now a common summer visitor to most parts of Wirral. The flat, slightly constructed nest of twigs is placed in a thick bush, usually at no great height from the ground, and the two white eggs (see British Bird Egg Cabinet, drawer 17) are laid towards the end of May. The nest here shown was collected at Heswall, Cheshire, in 1911.

Case 219.

RED-LEGGED PARTRIDGE (*Caccabis rufa*).

This species is now a local resident in the eastern and midland counties and is gradually extending its range in all directions. They are very partial to hedgerows or edges of plantations and long grass or rushes, and when flushed, occasionally perch on a neighbouring tree, which the grey partridge is believed never to do. The nest is merely a hollow scratched in the ground under the shelter of a hedge or of tall herbage. The eggs (see British Bird Egg Cabinet, drawer 18), ten to eighteen in number, are pale stone colour or buff, more or less thickly spotted—sometimes blotched, with dark reddish brown.

Case 220.

ROCK DOVE (*Columba livia*).

This species is resident and common along the rocky coasts in the north of Great Britain and Ireland, where caves and deep fissures exist, and afford suitable resorts. Somewhat similar in size and weight to the Stock Dove, it may be distinguished by the white rump (instead of blue),

and by the black bars on the wings. The nest, composed of dry seaweed, grass or other material, is generally placed on the ledge of some deep cavern. Two white eggs (see British Bird Egg Cabinet, drawer 17) are laid at each sitting, and several broods are reared during the year.

From this species all the domestic varieties of Pigeon have been derived (see Case 230).

Case 221.

RED GROUSE (*Lagopus scoticus*).

The Red Grouse is peculiar to the British Islands. It is the insular representative of the Willow Grouse (*L. lagopus*) of northern Europe, Asia and America, but it does not assume a white plumage in winter. It is generally distributed over the moors, especially in the north of England and Scotland. Its food consists of berries and grain and the tips of the ling and heather. Eight to ten eggs (as many as fifteen have been found) are laid in a hollow among heather. They are whitish-buff, heavily mottled and blotched with reddish-brown (see British Bird Egg Cabinet, drawer 17). Incubation takes about twenty-four days, and the young, when hatched, are carefully tended by both parents.

BLACK GROUSE (*Tetrao tetrix*).

This species was formerly much more common in England. It is now comparatively scarce, except in the south-western districts. It frequents young plantations of fir, larch and birch in the neighbourhood of moorland. Its food consists mainly of berries, seeds and the buds of trees and plants. The male, known as the Black-cock, is polygamous and takes no share in the incubation of the eggs and care of the young. The female or Grey-hen makes a slight nest in a concealed hollow, and lays from six to ten eggs of a creamish-white colour, spotted with orange brown (see British Bird Egg Cabinet, drawer 17).

CURLEW (*Numenius arquata*).

This species is a common resident throughout the year. Although usually frequenting the coast, in spring the adult birds retire inland to the moors and uplands for nesting purposes. The food as a consequence varies, consisting of berries, worms, molluscs, etc., in summer and crustaceans and other marine animals in winter. The nest is usually situated among heather or grass, and consists of a slight hollow in the ground, lined with bits of dry herbage. Four large pear-shaped eggs are laid, varying in tint from olive green to brownish-buff, spotted and blotched with brown and purplish-grey (see British Bird Egg Cabinet, drawer 21).

Case 222.

COMMON PHEASANT (*Phasianus colchicus*).

This well-known resident is generally distributed throughout the British Isles. It frequents thick covert-woods with plenty of undergrowth, in the immediate neighbourhood of cultivated land, where in the morning and evening the birds can come out to feed. The chief food consists of grain, seeds, berries and young shoots, varied with insects and grubs, wireworms being a favourite morsel. The nest is a mere hollow in the ground, roughly lined with dead leaves and well concealed. The eggs (see British Bird Egg Cabinet, drawer 18) vary in number from eight to twelve, but a score or more are sometimes found in one nest, probably the produce of more than one female.

There is little doubt that if the Pheasant were not artificially reared and annually turned down in this country it would soon cease to exist, for in hard winters especially, the birds left for stock are largely dependent on artificial feeding.

COMMON PARTRIDGE (*Perdix cinerea*).

A generally distributed resident, being especially abundant in the south-eastern counties of England. The food consists of green leaves, seeds, grain and many species of insects and snails. The well-constructed nest consists of a hollow in the ground, lined with leaves, etc. From twelve to twenty eggs are laid towards the end of April or the beginning of May (see British Bird Egg Cabinet, drawer 18). Incubation lasts from twenty-one to twenty-three days, and the young are carefully tended by both parents.

WOODCOCK (*Scolopax rusticula*).

Though generally regarded as a migrant, which arrives in October and returns northward in March, many specimens of this species remain to breed. It is generally distributed, frequenting wooded districts. The Woodcock provides a good example of protective colouration in which the colour of the plumage is aided by the crouching habit of the bird, so that it is almost invisible when among the dry autumn leaves and brushwood which it frequents. This is well illustrated in the exhibited specimen in the case. The food consists mainly of worms, of which enormous numbers are eaten, the bill being specially adapted for burrowing after them in the soil. Any rounded depression in the ground, in some sheltered spot, serves as a nest, merely lined with dry leaves. Four eggs are laid (see British Bird Egg Cabinet, drawer 21), of a creamy buff, blotched and spotted with grey and reddish-brown. The Woodcock has been observed carrying its young when on the wing—the nestling being held with the aid of the legs and bill.

LAND RAIL OR CORN-CRAKE (*Crex pratensis*).

A well-known visitor arriving in the south of England about the end of April and leaving usually before the end of September. During this time it is widely distributed throughout the British Isles, frequenting grass-land and cultivated fields. The harsh call-note of the male is familiar to most people, but the bird is seldom seen owing to its retiring habits. The food consists of slugs, insects and worms as well as seeds. The nest is placed on the ground among standing crops of grass, clover, etc., and is made of pieces of dry plants. Seven to ten buff-coloured eggs (see British Bird Egg Cabinet, drawer 19), spotted with pale lavender and reddish-brown, are laid towards the end of May.

Case 223.

CAPERCAILLIE (*Tetrao urogallus*).

This species, although originally indigenous in the British Islands, became extinct in this country in the middle of the 18th century, but was re-introduced from Sweden, and it is now abundant in the pine and beech forests of the central districts of Scotland. Its principal food consists of the tender shoots of the Scotch fir, together with berries and grain. The flesh, especially of the older birds, is strongly flavoured with turpentine. Its nest is a hollow scraped in the ground near a tree or bush, and the eggs (see British Bird Egg Cabinet, drawer 17) are a pale reddish-yellow, spotted with brown, and in number from six to twelve. The male takes no part in the duties of incubation or of rearing the young.

Case 224.

RING DOVE OR WOOD PIGEON (*Columba palumbus*).

Local names: Cushat, Queeze.

A generally distributed resident in the British Islands, in all wooded districts where its numbers have greatly increased in recent years. In winter immense flights arrive on our east coasts from the continent, greatly increasing the numbers of these voracious birds, which cause serious loss to agriculturists. A slightly built nest of twigs, is placed on the branches of almost any kind of tree or bush. Two or three broods are reared annually, the first pair of white eggs (see British Bird Egg Cabinet, drawer 17) are generally laid in February or March, and in favourable seasons nests containing eggs or young birds may be found during every month in the year.

STOCK DOVE (*Columba aenas*).

A common resident, which has greatly increased in numbers of late years, extending its range northward so that it is now plentiful in many parts of the north of Scotland. The nesting sites vary greatly.

In timbered districts, holes in trees are generally used, but in treeless areas, rabbit burrows (as here shown), the shelter of dense furze, overhanging ivy on cliffs and walls are made use of. Sometimes a small quantity of dried roots are used, barely sufficient to keep the eggs from the ground, but generally they are placed upon the bare sand, especially when laid within the entrance of rabbit burrows. Two white eggs (see British Bird Egg Cabinet, drawer 17) are laid and several broods are raised during the year.

In Cases 225 to 229 there are examples of birds that do not breed in the neighbourhood, regular winter visitants, and birds that have only been recorded on rare occasions.

Case 225.

NUTCRACKER (*Nucifraga caryocatactes*).

The Nutcracker has been observed 40 times south of the Tweed, 3 times only in Scotland, and not at all in Ireland. It has been recorded locally but once—at Vale Royal, Delamere, Cheshire, 1860. This specimen is now in the Grosvenor Museum, Chester. (Coward, "Birds of Cheshire," p. 98). For eggs see Case 231, drawer 28.

FIELDFARE (*Turdus pilaris*).

An autumn and winter visitor; may be often seen in large flocks in the Mersey Valley. For eggs see Case 231, drawer 28.

REDWING (*Turdus iliacus*).

A common winter visitor. For eggs see Case 231, drawer 28.

BLACK REDSTART (*Ruticilla titys*).

A winter visitant to Great Britain. Locally rarely seen.

ROSE-COLOURED PASTOR (*Pastor roseus*).

The Rose-coloured Pastor is a vagrant in the British Islands. It occurs fairly frequently, and there are several recorded instances of its occurrence, viz., Ormskirk, 1821; Salford, 1829; Eccles, 1830, 1831 (locality not cited); Liverpool, 1840; Cartmel, 1854; Oldham, 1860; and from Prestwich Clough, Heaton Park and Barlow Wood, on the south of Manchester. (Mitchell, "Birds of Lancashire," p. 77). For eggs see Case 231, drawer 28.

Case 225—continued.**GOLDEN ORIOLE** (*Oriolus galbula*).

This species breed in Cornwall, there are records of its nesting in six other English counties, but it is only recorded as a rare visitor to this locality. For eggs see Case 231, drawer 4.

WAXWING (*Ampelis garrulus*).

An irregular visitor to the British Islands. Invasions of the bird have occasionally occurred to the local area. The upper specimen of the two on exhibition was shot at Simonswood, near Liverpool. For eggs see Case 231, drawer 28.

PIED FLYCATCHER (*Muscicapa atricapilla*).

A summer visitor; few breed in the local area. For eggs see Case 231, drawer 4.

GREAT GREY SHRIKE (*Lanius excubitor*).

An annual autumn and winter visitor to the eastern side of Great Britain, and only an occasional visitor to the local area. A female was shot at Urmston in January, 1904 (Zoologist, 1904), and specimens were taken at Chorlton in 1905, Sale, Cheadle in 1850, Delamere Forest in 1886, and Dorleston, Nov. 9th, 1893. A specimen from Middlewich is in the Warrington Museum. (Coward, "Birds of Cheshire," p. 66). For eggs see Case 231, drawer 28.

WHITE WAGTAIL (*Motacilla alba*).

The White Wagtail passes through the British Islands from the middle of March to the early part of June, being chiefly noticed in the coastal regions of the western side of Great Britain and Ireland. It has been recorded in the local area in 1869, at Burton. (Coward "Birds of Cheshire," p. 62). For eggs see Case 231, drawer 3.

SHORE LARK (*Otocorys alpestris*).

An exceedingly rare winter visitor. Several records from Lancashire and Cheshire.

BRAMBLING (*Fringilla montifringilla*).

A winter visitor to the British Islands, and an occasional visitor to the local area. For eggs see Case 231, drawer 4.

HOOPOE (*Upupa epops*).

A passage-migrant to the British Islands. The specimen exhibited in the case is one of four shot at Knowsley Park in 1815. There are

Case 225—continued.

a dozen other records of its occurrence in the local area, viz., at Sale, Hoylake and Manchester (Coward, "Birds of Cheshire," p. 117), 1905, and Walney Island, 1884 (Mitchell, "Birds of Lancashire," p. 97). For eggs see Case 231, drawer 7.

MEALY REDPOLL (*Linota linaria*).

An irregular autumn and winter visitor. For eggs see Case 231, drawer 28.

PINE GROSBEAK (*Pyrrhula enucleator*).

A rare vagrant. There have been fifty more or less authenticated records, of which two near Hurlston in 1837 were local. (Mitchell, "Birds of Lancashire," p. 69). For eggs see Case 231, drawer 28.

ROUGH-LEGGED BUZZARD (*Buteo lagopus*).

Once a common visitant but now rare. Five specimens were shot locally in 1880. For eggs see Case 231, drawer 30.

KITE (*Milvus iclinus*).

The Kite was formerly abundant in Great Britain, but it is now confined to Wales and is a very rare vagrant elsewhere. At one time it nested in the tall trees among the fells, but it has not appeared during the last 25 years. Although formerly a common resident in the Cheshire woodlands, it has only been noticed very occasionally within recent years. For eggs see Case 231, drawer 8.

HONEY BUZZARD (*Pernis apivorus*).

The Honey Buzzard is an uncommon passage-migrant in May, September and October. It is more frequently seen in the eastern counties. The two specimens in the case are local, the immature female being shot at Knowsley Park by the Hon. E. G. Stanley, in October, 1818, and the adult female at Rainford, in 1835. It is now a very rare visitor to the local area.

MONTAGUE'S HARRIER (*Circus pygargus*).

A rare summer visitor in the British Islands. It has been recorded twice locally—Walney Island in 1874 (Mitchell, "Birds of Lancashire," p. 107), and Whitendale Moor, 1889 (Mitchell, "Birds of Lancashire," p. 123). For eggs see Case 231, drawer 8.

GREENLAND FALCON (*Heirofalco candicans*).

An irregular winter visitor. There are no local records.

Case 225—continued.**MARSH HARRIER** (*Circus aeruginosus*).

A casual visitor. For eggs see Case 231, drawer 8.

HEN HARRIER (*Circus cyaneus*).

The Hen Harrier is a British resident and a winter visitor, and nests from time to time among the fells. For eggs see Case 231, drawer 8.

HOBBY (*Falco subbuteo*).

A summer visitor in the British Islands, but rare locally. For eggs see Case 231, drawer 8.

GOSHAWK (*Astur palumbarius*).

A rare vagrant; there are only two local records. For eggs see Case 231, drawer B.

SCOPS OWL (*Scops giu*).

A casual straggler to the British Islands. The two local area records are Boggart Clough about 1850 (this specimen is now in the Peel Park Museum) (Mitchell, "Birds of Lancashire," p. 105) and Cardon Park in 1868 (Coward, "Birds of Cheshire," p. 126). For eggs see Case 231, drawer 29.

TENGMALM'S OWL (*Nyctala tengmalmi*).

Tengmalm's Owl has its home in the far north and has occasionally straggled to the British Islands in very cold winters. A specimen is recorded as having been taken near Preston, which is now in the Nottingham Museum (Mitchell, "Birds of Lancashire," p. 104). For eggs see Case 231, drawer 29.

LITTLE OWL (*Athene noctua*).

The Little Owl is now resident as an introduced bird. There are about twenty early recorded examples which may have been genuine vagrants (Dr. Hartert). Locally there is one record by Mr. T. Williams, of Ormskirk, in 1863, at Bathwood, Ormskirk. For eggs see Case 231, drawer 7.

SNOWY OWL (*Nyctea scandiaca*).

A rare winter visitor. There are no local records. For eggs see Case 231, drawer 7.

SHORT-EARED OWL (*Asio accipitrinus*).

Resident and a winter visitor. It is now only a winter visitor to the local area. For eggs see Case 231, drawer 7.

Case 226.**GOLDEN-EYE** (*Clangula clangion*).

A winter visitor to the British Islands and regularly seen in this district. For eggs see Case 231, drawer 36.

LONG-TAILED DUCK (*Harelda glacialis*).

A winter visitor. There are a few local records only (Mitchell, p. 199, and Coward, p. 171). For eggs see Case 231, drawer 15.

GADWALL (*Chaulelasmus streperus*).

A winter visitor. Rarely seen in this district. For eggs see Case 231, drawer 11.

POCHARD (*Fuligula ferina*).

A resident species and winter visitor. Locally a winter visitor only, and it is rarely seen inland. For eggs see Case 231, drawer 15.

PINTAIL (*Dafila acuta*).

A resident and winter visitor. Regularly seen in this district during the winter months. For eggs see Case 231, drawer 13.

GARGANEY (*Querquedula circica*).

A summer resident and vagrant. Locally a very rare visitor. For eggs see Case 231, drawer 13.

TUFTED DUCK (*Fuligula cristata*).

A resident and winter visitor. Locally not uncommon, frequently seen on the meres and marshes. For eggs see Case 231, drawer 15.

SCAUP DUCK (*Fuligula marila*).

A winter visitor. Regularly seen in this district. For eggs see Case 231, drawer 15.

HARLEQUIN DUCK (*Cosmonetta histrionica*).

A very rare vagrant, and there are no authentic records of visits to this district. For eggs see Case 231, drawer 33.

GOOSANDER (*Mergus merganser*).

A resident and winter visitor. Occasionally seen in this district. For eggs see Case 231, drawer 14.

Case 226—continued.**HOODED MERGANSER** (*Mergus cucullatus*).

A very rare visitor from America. No local records.

SMEW (*Mergus albellus*).

A winter visitor. Locally very rarely seen.

EGYPTIAN GOOSE (*Chenalopez aegyptiacus*).

Many examples of this introduced species, an inhabitant of Africa and Palestine, have been killed in various parts of the country. There are several records of specimens shot on the Ribble, probably escapes from confinement (Mitchell, "Birds of Lancashire," p. 5).

BERNACLE GOOSE (*Bernicla leucopsis*).

A winter visitor. Regularly visits this district, and is occasionally seen inland. Prior to 1862 it was common on the Dee marshes. Captain Congreve has one in his collection at Burton, Cheshire (Coward, "Birds of Cheshire," p. 157). For eggs see Case 231, drawer 36.

BRENT GOOSE (*Bernicla brenta*).

A winter visitor. Locally not uncommon. Visits the Dee Estuary in winter in considerable numbers. It is recorded that 200 were seen in 1888 by Mr. A. O. Walter. Specimen at Burton, 1884. Mr. L. Jones shot one on Hilbre Island, 1895 (Coward, "Birds of Cheshire," p. 157).

WHITE-FRONTED GOOSE (*Anser albifrons*).

A winter visitor. Of fairly common occurrence locally in the winter months. For eggs see Case 231, drawer 36.

BEAN GOOSE (*Anser segetum*).

A winter visitor. Occasionally shot on the coasts of this district. One record on the Dee marshes, 1872 (Coward, "Birds of Cheshire," p. 155). For eggs see Case 231, drawer 36.

PINK-FOOTED GOOSE (*Anser brachyrhynchus*).

A winter visitor. Regularly seen in this neighbourhood. For eggs see Case 231, drawer 36.

MUTE SWAN (*Cygnus olor*).

A resident and generally distributed species in a semi-domesticated condition. Originally introduced. Locally common. For eggs see Case 231, drawer A.

Case 226—continued.**BEWICK'S SWAN** (*Cygnus bewicki*).

A winter visitor. Fairly common in England and Wales. Very rarely seen locally.

SHOVELLER DUCK (*Spatula clypeata*).

A resident. Locally a winter visitor, but in small numbers. For eggs see Case 231, drawer 11.

WIDGEON (*Mareca penelope*).

A resident and winter visitor. Locally seen as a visitor only. For eggs see Case 231, drawer 13.

COMMON SCOTER (*Edemia nigra*).

A resident and winter visitor. Locally of common occurrence during the winter months. For eggs see Case 231, drawer 16.

Case 227.**CURLEW SANDPIPER** (*Tringa subarquata*).

A passage-migrant, chiefly on the east coast. Fairly common locally in the spring and autumn.

GREAT SNIPE (*Gallinago major*).

A straggler to the British Islands in August to October. It was first described by Pennant from a specimen shot in Lancashire (Mitchell, "Birds of Lancashire," p. 184), and has occurred on several occasions in Lancashire and Cheshire. The specimen exhibited was shot at Winwick, Lancashire.

JACK SNIPE (*Gallinago gallinula*).

The Jack Snipe is a winter visitor and fairly abundant locally. For eggs see Case 231, drawer 32.

TURNSTONE (*Streptilas interpres*).

A passage-migrant and winter visitor. Fairly common locally. For eggs see Case 231, drawer 31.

GREY PHALAROPE (*Phalaropus fulicarius*).

A rare and irregular passage-migrant. It is an irregular visitor to the local area. For eggs see Case 231, drawer 32.

Case 227—continued.**SPOTTED SANDPIPER** (*Tringoides macularia*).

An American bird whose appearances in the British Islands seem to be few out of many doubtful records. There are, however, recorded instances in Lancashire in 1863 and 1865 from Warrington, and four specimens in 1884 (Mitchell, "Birds of Lancashire," p. 232). For eggs see Case 231, drawer 32.

RED-NECKED PHALAROPE (*Phalaropus hyperboreus*).

A summer migrant and locally rare. Recorded once from Southport and eight times at Carnforth and Martin marshes ("History of Lancashire," p. 202). For eggs see Case 231, drawer 32.

DOTTEREL (*Eudromius morinellus*).

A spring and autumn visitor. For eggs see Case 231, drawer 20.

GREEN SANDPIPER (*Totanus ochropus*).

A passage-migrant, occurring less frequently in the local area than on the east coast. For eggs see Case 231, drawer 32.

KNOT (*Tringa canutus*).

A winter visitor, it is more abundant on the east coast, being a straggler to the local area.

PURPLE SANDPIPER (*Tringa striata*).

A winter visitor and widely spread over all our coasts, especially those of a sandy character. For eggs see Case 231, drawer 21.

SANDERLING (*Calidris arenaria*).

The Sanderling is a passage-migrant in April-May and in August to October, it is also a winter visitor, preferring sandy coasts.

PTARMIGAN (*Lagopus mutus*).

Resident in the north of Scotland. No local records. Specimens in winter and spring change of plumage are exhibited. For eggs see Case 231, drawer 34.

STONE CURLEW OR THICK-KNEE (*Ædicnemus scolopax*).

A rare resident in the British Islands. There is a specimen in the Warrington Museum, taken at Hoole, Cheshire (Coward, "Birds of Cheshire," p. 200). For eggs see Case 231, drawer 20.

Case 227—continued.**SCLAVONIAN GREBE** (*Podicipes auritus*).

A winter visitor. A few breed in the north mainland of Scotland, but there is no proof that it breeds elsewhere in the British Islands. There are only a few records of its appearance in the local area. One was recorded at Burton in 1839 (Coward, "Birds of Cheshire," p. 250). For eggs see Case 231, drawer 33.

RED-NECKED GREBE (*Podicipes griseigena*).

A winter visitor, chiefly to the east coast of the British Islands. One is recorded as shot by Mr. Lewis Jones, at Hilbre Island, in the estuary of the river Dee, Cheshire (Coward, "Birds of Cheshire," p. 249).

EARED OR BLACK-NECKED GREBE (*Podicipes nigricollis*).

A resident and visitor to the British Islands. In the local area one was secured near the mouth of the river Lune, Lancashire, in March or April, 1886 (Mitchell, "Birds of Lancashire," p. 262); one was shot at Bagilt, Dee estuary, on the 27th September, 1856 (Coward, "Birds of Cheshire," p. 250); and an adult male in full summer plumage was captured alive at Middleton, near Lancaster, on the 28th July, 1904 ("Zoologist," 1904, p. 350). A specimen caught in a fishing net on the Mersey, near Tranmere, in 1897, is now in the Chester Museum. For eggs see Case 231, drawer 24.

PALLAS'S SAND GROUSE (*Syrrhaptes paradoxus*).

An irregular visitor to the British Islands; the greatest numbers occurred in May, 1863, and in 1888. Of the specimens in the case the male with the wings closed is from Tremadoc, North Wales, July 8th, 1859; it is one of the first examples known to be taken in Europe. The male with open wings was taken at Hoylake in 1863, and the female at Storeton, July 1st, 1888.

QUAIL (*Coturnix communis*).

This species is resident in the British Islands, with additional visitors in spring. Although once a common visitor to this district, it is now rare, and only seen at irregular intervals. For eggs see Case 231, drawer 18.

SPOTTED CRAKE (*Porzana maruetta*).

A spring visitor to the British Islands. There were three occurrences recorded in 1898, and one in 1904, all in the Rusland Valley, Furness, Lancashire ("Zoologist," 1904, p. 460). For eggs see Case 231, drawer 19.

Case 227—continued.**LITTLE AUK** (*Mergulus alle*).

An irregular winter visitor, occasionally met with in the local area. For eggs see Case 231, drawer 33.

GREAT AUK (*Alca impennis*).

The Great Auk (now extinct) used to breed in St. Kilda, but even by the middle of the 18th century the birds had become very irregular in their visits. The bird made no nest, but the single egg was laid on the bare rock. The Museum possesses a good example of the Great Auk's Egg.

The exhibited specimens include the skull of the Great Auk, photographs of the restoration of the bird and an egg in the possession of the Norwich Corporation, and a case of an egg (see Case 231, drawer A).

LITTLE STINT (*Tringa minuta*).

The Little Stint visits the British Islands in the spring and in the autumn on its migrations to and from the North. It is occasionally met with in the estuaries of the Dee and Mersey in the autumn.

TEMMINCK'S STINT (*Tringa temmincki*).

Temminck's Stint is a rare and irregular migrant, chiefly in autumn, and is very rarely met with in the spring. In the local area it is, recorded from Ribbleson Moor, 1864, Pilling, 1873 (Mitchell, "Birds of Lancashire," p. 191), and the Dee Marshes near Shotwick, 1862 (August) (Coward, "Birds of Cheshire," p. 215). For eggs see Case 231, drawer 32.

GREY PLOVER (*Squatarola helvetica*).

A winter visitor to the local area.

AVOCET (*Recurvirostris avocetta*).

The Avocet was formerly one of our regular summer migrants, but it is now merely a straggler. It has occurred in the local area on Walney Island and on the Ribble. For eggs see Case 231, drawer B.

WOOD SANDPIPER (*Totanus glareola*).

A passage-migrant and a rare autumn and winter straggler to the local area. For eggs see Case 231, drawer 21.

Case 227—continued.**COLLARED PRATINCOLE** (*Glareola pratincola*).

The Collared Pratincole is an African species, and occasionally visits the British Islands in the spring and autumn. The bird in the case is the first recorded British specimen, and was taken at North Meols, Lancashire, in 1803.

WHIMBREL (*Numenius phaeopus*).

A summer resident and passage-migrant. In the local area it visits Morecambe Bay. For eggs see Case 231, drawer 21.

BAR-TAILED GODWIT (*Limosa lapponica*).

A winter visitor and passage-migrant.

BLACK-TAILED GODWIT (*Limosa belgica*).

An irregular migrant, and more rarely met with than the Bar-tailed Godwit. For eggs see Case 231, drawer 21.

DUNLIN (*Tringa alpina*).

A resident and winter visitor. The specimens here shown are in winter plumage. For eggs see Case 231, drawer 21.

SPOTTED REDSHANK (*Totanus fuscus*).

An uncommon passage-migrant, rare to the local area. A specimen taken at Southport is in the Study Collection. For eggs see Case 231, drawer 32.

GREENSHANK (*Totanus nebularis*).

The Greenshank is a resident in the British Islands, and breeds in Scotland. It is sparsely distributed in the local area.

GLOSSY IBIS (*Plegadis falcinellus*).

Common in Southern Europe, but only an accidental visitor to Great Britain in autumn or early winter; observed on four occasions in Lancashire during the past century. The specimen shown was shot at Ormskirk over 62 years ago. No records in Cheshire.

Case 228.**SANDWICH TERN** (*Sterna cantiaca*).

A summer visitant. At one time it bred freely on Walney Island. (Mitchell, "Birds of Lancashire," p. 208). For eggs see Case 231, drawer 22.

Case 228—continued.**BLACK TERN** (*Hydrochelidon nigra*).

A passing migrant. Few local records—one at Ashton-on-Mersey, November 3, 1893 ("History of Lancashire," p. 203).

IVORY GULL (*Pagophila eburnea*).

This species appears on the Northern coasts when severe winters have driven it from Spitzbergen and the neighbourhood. Locally it is said to have been killed on several occasions in Morecambe Bay (?), and one was taken at Kendal and one at Carnforth ("Fauna of Lakeland," p. 438).

GLAUCOUS GULL (*Larus glaucus*).

This species is the "Burgomaster" of the whalers. It is distinguished by its enormous spread of wings, being one of the largest of the gulls. It is only an irregular visitor, and very rare to this locality.

POMATORHINE SKUA (*Stercorarius pomatorhinus*).

A passage-migrant and winter visitor. It fairly regularly makes its appearance in the district.

POMATORHINE SKUA AND COMMON GULL.

These specimens were shot in the Mersey in the circumstances shown in the case. While in flight the Skua is forcing the Gull to release its freshly-caught prey, which the Skua in turn by a sudden dive catches before it reaches the sea.

GREAT SKUA (*Megalestris catarrhactes*).

This species is resident in the Shetlands. It is locally known as the "Sea Hawk," and not a common visitor to this district. For eggs see Case 231, drawer B.

RICHARDSON'S SKUA (*Stercorarius crepidatus*).

A summer resident and passing migrant. Not uncommon locally. For eggs see Case 231, drawer 23.

BUFFON'S SKUA (*Stercorarius parasiticus*).

Irregular autumn migrant, locally a rare visitor. For eggs see Case 231, drawer 33.

LITTLE GULL (*Larus minutus*).

Irregular autumn and winter visitor. It has been seen on rare occasions in this district during the winter.

Case 228—continued.**BITTERN** (*Botaurus stellaris*).

A winter visitor chiefly, but in some districts is seen also in summer.

GREAT NORTHERN DIVER (*Colymbus glacialis*).

A winter visitor. Most plentiful in the North. Locally only occasionally recorded. For eggs see Case 231, drawer 24.

CORMORANT (*Phalacrocorax carbo*).

A resident, generally distributed. May be seen occasionally in the Mersey Estuary. For eggs see Case 231, drawer 10.

STORMY PETREL (*Procellaria pelagica*).

A resident, locally sometimes seen after storms. For eggs see Case 231, drawer 27.

MANX SHEARWATER (*Puffinus anglorum*).

A resident and a winter visitor to this district. For eggs see Case 231, drawer 27.

FULMAR PETREL (*Fulmarus glacialis*).

A resident. Locally of very rare occurrence. For eggs see Case 231, drawer 27.

LEACH'S PETREL (*Procellaria leucorrhoea*).

A straggler, breeding at St. Kilda. Locally it has only been recorded during stormy weather. For eggs see Case 231, drawer 27.

WILSON'S PETREL (*Oceanites oceanicus*).

Very rare vagrant. The only local record is of one washed ashore, Walney Island, November, 1890 ("Fauna of Lakeland," p. 457).

The following additional birds have been occasionally recorded in Lancashire and Cheshire, and representative specimens are contained in the Study Collection, and may be seen on application:—

Blue-headed Wagtail (*Motacilla flava*).

Black-throated Wheatear (*Saxicola stapazina*).

Fire-crested Wren (*Regulus ignicapillus*).

Richard's Pipit (*Anthus richardi*).

Woodchat (*Lanius pomeranus*).

White-bellied Swift (alpine) (*Cypselus melba*).
 Roller (*Coracias garrulus*).
 Spotted Eagle (*Aquila clanga*).
 Red-footed Falcon (*Tinnunculus vespertinus*)
 Purple Heron (*Ardea purpurea*).
 Little Bittern (*Ardea minuta*).
 Night Heron (*Nycticorax griseus*).
 American Bittern (*Botaurus lentiginosus*).
 Spoonbill (*Platalea leucorodia*).
 Whooper Swan (*Cygnus musicus*).
 White-eyed Duck (*Nyroca ferruginea*).
 Velvet Scoter (*Edemia fusca*).
 Surf Scoter (*Edemia perspicillata*).
 Baillon's Crake (*Porzana bailloni*).
 Little Crake (*Porzana parva*).
 Crane (*Grus communis*).
 Little Bustard (*Otis tetrax*).
 Sociable Plover (*Vanellus gregarius*).
 Buff-breasted Sandpiper (*Tringites rufescens*)
 Red-breasted Snipe (*Macrorhampus griseus*).
 Roseate Tern (*Sterna dougalli*).
 Gull-billed Tern (*Sterna anglica*).
 White-faced Petrel (*Porcellaria marina*).
 Sabine's Gull (*Xema sabinii*).
 Iceland Gull (*Larus leucopterus*).

Case 229.

The specimens in this case are designed to show the remarkable changes in the plumage of many birds, according to age and season. Many gulls, for example, differ so much from year to year in the first four or five years of life that birds of the same species during this period are often mistaken for different species. Some species of birds have a summer or breeding plumage, which is quite different to the winter plumage, and males are often very different from females.

RED-THROATED DIVER (*Colymbus septentrionalis*).

Four specimens to illustrate the stages in the change of plumage of this species from the chick to the adult. The complete breeding plumage of this species may be seen in the group, Case 217.

BLACK GUILLEMOT (*Uria grylle*).

Ten specimens showing the stages in the change of plumage from the chick to the adult summer plumage, and from this to the winter plumage. The first plumage of the young Black Guillemot,

Case 229—continued.

with the exception of the white patch on the wings, which is here mottled, resembles the winter plumage of the adult, so that with this exception the changes here shown are undergone each year in both sexes.

HERRING GULL (*Larus argentatus*).

The front six specimens of this species illustrate the yearly change of plumage from the chick to the adult in five years. The two specimens at the back are intermediate stages of the third year.

KITTIWAKE GULL (*Rissa tridactyla*).

Contrast of immature and adult plumage.

GREAT BLACK-BACKED GULL (*Larus marinus*).

A specimen in immature plumage. The adult may be seen in the group of the Great Black-backed Gull, Case 208.

EIDER DUCK (*Somateria mollissima*) (male).

Six specimens showing the gradual change in the moulting from the dark brown to the full adult male plumage.

Case 230.

Domesticated Birds.

A case of specimens illustrating recognized varieties of birds in domestication, which have been derived by artificial selection from ancestors in a state of nature.

THE COMMON CANARY (*Serinus canaria*).

About twenty recognized varieties of the Common Canary have been produced from it by artificial selection and pedigree breeding. Of these many are shown by prize or exhibition specimens, so that the points of each fancy are well displayed.

There are also several specimens of hybrids produced by crossing with Finches, and by other crosses.

THE ROCK PIGEON (*Columba livia*).

There are upwards of 200 varieties of Domestic Pigeon, all produced by artificial selection from a common ancestor, the Rock Pigeon. A few of the more well-marked varieties are here on exhibition, sufficient to show the extreme types of variation brought about. Many of these specimens are prize birds, most typical of the fancy they represent.

Case 230—continued.

Varieties of the Domestic Fowl, Pheasant Hybrids and several Fighting Game Cocks of historical interest from having fought in this district, are exhibited.

A specimen of Black Grouse (*Tetrao tetrix*) that has assumed male plumage is also on view. This is a variation that is somewhat common among Game Birds.

Case 231.**Cabinet of Eggs of British Birds.**

In this Cabinet are specimens of the eggs of British Birds, arranged in their respective clutches, including all the nesting species and most of the birds that visit the British Islands. The birds that breed and build nests in the neighbourhood are distinguished by a red asterisk.

A key list of the birds is placed over the case, arranged alphabetically with cross references, giving the number of the drawer opposite each bird, in which its eggs may be found.

Case 232.

A case arranged to facilitate the comparative study of Birds' Eggs.

(a) Structure of egg shell and the surface grain or texture of eggs.—

The egg shell is composed of carbonate of lime which is secreted by the shell gland and spread over and around the egg shortly before the egg is laid. (Hence the necessity for lime salts in the food of birds generally).

In certain families the egg shell exhibits a definite grain or texture and in some cases species of the same genus are so distinguished. Examples of this latter condition, which may be called specific differences are seen in the difference between the Trumpeter Swan * (1) and Mute Swan (2), or between the Grey Lag Goose (3) and Pink-footed Goose (4), examples of which are shown.

According to appearance, eggs may be grouped under the following heads:—Smooth, Glossy, Porcellanous, Greasy, Chalky film, Dull and Granulated.

Smooth Variety. The majority of birds lay eggs with a smooth surface. Examples shown are Pheasant (5), Red Legged Partridge (6), Moor Hen (7), Golden Plover (8), Oyster Catcher (9), Song Thrush (10), Jay (11), Skylark (12), Butcher Bird (13), and Wheat-ear (14).

*The numbers here given are the numbers of the specimens in the Case.

Case 232—continued.

Glossy Variety. Examples of this variety, which in addition are usually colourless, thin and semi-transparent are seen among others in Woodpeckers, one of which, the Green Woodpecker (15) is shown.

Porcellanous Variety. The Tinamous, Central and South American Birds are good examples, the shells of which are thick, opaque and so highly glazed as to have a burnished appearance. Specimens of the birds may be seen in the Upper Gallery, and its eggs are shown in this Case (16).

Greasy Variety. All ducks have eggs with a greasy or oily appearance, i.e., Mallard (17), Eider Duck (18), and Merganser (19).

Chalky-film Variety. Some eggs are covered with a chalky-film, for example the Flamingo (20), Cormorant (21) and Grebe (22). It is suggested that this covering serves as a protection against too much damp—Grebes for example build over water.

Dull Variety. Many eggs are without polish or lustre, i.e., the Black Guillemot (23) and Kestrel (24).

Granulated Variety. Examples of this variety are best exhibited by eggs of many of the Running Birds—Emu (25) and Cassowary (25a)—but there are others such as the Guinea Fowl (26) and Francolin (27), which present quite a granulated appearance.

(b) Colouring of Eggs.—

The pigment of birds' eggs is on the surface and is deposited immediately before it is laid. Almost every shade of colour is represented, and a sufficient explanation of its meaning is not always forthcoming. In many instances the colour markings are undoubtedly protective. Generally speaking eggs that are laid in the open, with little or no covering or the protection of a nest, have their colour markings harmonising with the colour tones of their surroundings, rendering them so inconspicuous that they are not seen by a casual observation, i.e., the Terns (see Case 202), the Lapwing and Snipe (see Case 201), the Ptarmigan and Grouse. Again it is suggested that the reason of the light colour or whiteness of the eggs of many birds that build in dark places, i.e., the Starling (see Case 109), the Sand Martin (see Case 154), the Kingfisher (see Case 157), and the Stock Dove (see Case 224) is that the eggs may be easily found by the parents, but there are many exceptions to this.

The eggs of young birds are usually not so richly coloured as when the birds are in their prime, and when old age advances the colours again become less brilliant. Examples are here shown

Case 232—continued.

taken from various clutches, viz., House Sparrow (28), Robin (29), Sparrow Hawk (30), Buzzard (31), and Lapwing (32), in which the variations seen are probably due to the difference in age of the parent of each egg. Eggs of the same clutch however, often vary, i.e., clutch of Lesser Tern (33). Two complete clutches of Lapwing eggs are also shown, one (32a) being all normal in colour, whereas the other (32b) are abnormal in colour. But perhaps the most striking example of the variations exhibited by eggs, not only of the same species, but even of the same bird is that of the Guillemot, in which no two eggs are quite alike. An interesting series of these eggs may be seen in the Egg Cabinet (Case 231, drawers 25 and 26).

(c) Clutches.—

The set of eggs which a bird lays for each setting is called a clutch. The number of such a full clutch varies in different species, from one to as many as twenty. In many groups of birds the number of the clutch is constant and distinctive of the species. The following examples are given:—

One. Where a clutch consists of only one egg it is generally large in comparison with the bird, i.e., Guillemot (34), Puffin (35), and Stormy Petrel (36).

Two. Two eggs clutches are very common and constant. Examples shown—Dove (37), Nightjar (38), Diver (39), and Buzzard (40).

Two to Three. Many birds are variable, sometimes two, sometimes three to the clutch, i.e., Herring Gull (41), Kittiwake (42), Skua (43) and Common Tern (44).

Four. This is a very constant number among Plovers, etc., i.e., Ring Plover (45), Sandpiper (46) and Common Snipe (47).

Four to Seven. The Perching Birds are mostly included in this series, i.e., Song Thrush (48), Greenfinch (49), Yellow Bunting (50) and Swallow (51). A few however, as the Tits, lay as many as ten or twelve eggs.

Ten to Fifteen. Nearly all the Game Birds, Rails and Ducks, lay from ten to fifteen eggs to the clutch, sometimes more. Examples given are the Common Partridge (52) and Moorhen (53).

The Cuckoo lays several eggs during the season, but only one is deposited in each nest of the foster mother. For further account of the Cuckoo see description of groups under Cases 159-161.

Case 232—continued.**(d) Size of Egg.**—

Eggs vary much in size, for example note the egg of Ostrich (54) and Humming Bird (55). A large egg usually means that the young chick is hatched in a less helpless condition than from the small egg, as a much larger amount of food yolk is present, the incubating period is longer and the chick is more developed when hatched. Generally, but not at all constantly, the size of the egg is proportional to the parent, as the number of eggs to be covered by the bird must be considered. The following examples illustrate the size of eggs in comparison to that of the parent.

The egg of the partridge (56) although a much larger bird is no larger than the egg of the Snipe (57). Again the Blackbird's egg (58) is much smaller than the Snipe, although the birds are about equal in weight. The young Blackbirds are helpless when hatched, but the young Snipe are able to run about immediately. The Cuckoo and Missel Thrush are of equal size, but the egg of the former (Cuckoo 59) is much smaller than the latter (Missel Thrush 60), and is but slightly larger than the Sparrow's egg (61). Again the Guillemot egg (62) is considerably larger than the Raven (63) although the birds are about equal in size, whereas the Imperial Eagle is five or six times larger than the Guillemot, but its egg (64) is no larger.

(e) Form of Eggs.—

The shape of the eggs is fairly constant in the various groups of birds. The principal varieties may be classed under the following heads:—Ovoid, Pyriform, Bi-conical, Oval, and Spherical.

Ovoid. This is the most common and familiar form—that of the Common Fowl. Nearly all Game Birds, Gulls, Ducks and Perching Birds have this type of egg. Examples shown are Partridge (65), Great Black-backed Gull (66), Jackdaw (67) and Nightingale (68).

Pyriform. The pear shaped eggs are characteristic of Snipe, Plovers, etc., the Guillemot and Great Auk. The pyriform shape of egg is especially useful where little or no nest is made, and its shape causes it to roll in small circles if disturbed. The examples of this variety shown are—Godwit (69), Ring Plover (70), Lapwing (71), and Guillemot (72).

Bi-conical. Eggs pointed at both ends are characteristic of the Grebes, i.e., Great Crested Grebe (73) and Little Grebe (74).

Case 232—continued.

Oval. The eggs of the Nightjar (75) have both ends equally rounded, forming a true oval.

Spherical. Nearly round or spherical eggs are characteristic of the Owls and a few other groups. The eggs of birds of prey approach this form. Examples shown are Tawny Owl (76), Barn Owl (77), Kingfisher (78), Osprey (79), Merlin (80) and Sparrow Hawk (81).

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